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A Lecture
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Delivered at the Incorporated Institute of Hygiene on May 14th, 1907,

BY J. BLAND-SUTTON, F.R.C.S. ENG.,
SURGEON TO, AND MEMBER OF THE CANCER INVESTIGATION COMMITTEE OF, THE MIDDLESEX HOSPITAL.

GENTLEMEN,—Whilst the public is persistently asking the profession to explain the nature and cause of the tumour-diseases grouped together for clinical convenience under the general term cancer, some observations have been made which tend to show that physicians and surgeons have failed to grasp the subject in its full meaning. We are still hopelessly ignorant of the cause of cancerous disease and have to rely on histologic methods for distinguishing between the various groups, or kinds, of malignant tumours; on these grounds I think to-day it will be useful to consider the structural details which serve for the identification of a malignant tumour. The ultimate histological analysis of our bodies shows that they, like the bodies of other vertebrates, consist of epithelium, connective, muscular and nervous tissues, and though these tissues present important modifications in different regions of the body and give rise to a great variety of tumours a careful examination of their structure by means of the microscope will enable a competent histologist to state with certainty the kind of tissue in which a particular tumour arose. It is on this account that tumours of all kinds are classified on a structural (or histologic) basis and it is a remarkable fact that nearly every tissue in the body is found in the form of a tumour and every tissue, with the exception of three (fat, voluntary muscle, and nervous tissue), is the source of malignant tumours.

There are five distinct groups of malignant tumours: (1) the true cancers are those which arise from epithelium whether protective or secretory (glandular); (2) the chorion-epithelioma which is derived from the epithelium of the chorionic villi out of which the placenta is formed; (3) the endotheliomata derived from the modified epithelium lining blood and lymph vessels and serous membranes; (4) sarcomata which grow from connective tissue, whether firm and dense-like periosteum or so fine as the sustentacular tissue of the retina; and (5) a remarkable group of tumours known as malignant teratomata arising in perversion of the sex-cell (malignant embryomata).

In dealing with these tumours we are confronted with the fact that there is no such thing as an absolute histologic indication of malignancy, clinical and histological characters must be considered together; moreover, in the extensive group of connective tissue tumours, although a typical cartilage tumour, a uterine fibroid, or a myeloma can be distinguished from a sarcoma or a cancer as easily as a decision can be made between a planet and the pole star, there are in every genus of connective-tissue tumours forms which in their minute structure so closely resemble sarcomata that the most expert and experienced microscopists cannot give a confident opinion for or against malignancy. The true character of such tumour can only be determined by careful observation of the patient. It is also necessary to draw attention to the difficulty which is sometimes experienced in deciding between the tumour formations (gummata) of syphilis and sarcomata.

SARCOMATA.

It may be useful to give some examples of the difficulty which arises out of this failure in histological methods and its importance to patients. Many years ago I saw a testicle removed from a young man; on dividing the gland it seemed to me a mistake had been made and that its enlargement was due to a gumma. I begged half the specimen and made it the subject of careful microscopic inquiry which further convinced me that it was a gumma. The operator handed the other half of the testis to a very experienced and skilful histologist who also came to the opinion that the supposed sarcoma was a gumma. Time proved us both in error, and this patient died with secondary deposits in his lungs and abdomen within two years of the operation.

In 1905 I removed the uterus from a woman, aged 40 years, on account of a fibroid as big as an ostrich's egg which had become impacted in the pelvis producing pain in the great sciatic nerve. The patient recovered easily and well. The tumour was moderately hard and displayed the characteristic features of a common fibroid. Some months later the pain in the sciatic nerve returned and a hard diffuse mass could be detected in the pelvic connective tissue; fragments were removed and submitted to three histologists who reported that they exhibited the typical characters of an innocent fibroid. The patient died 14 months after the primary operation; *the apparently innocent fibroid was a spindle-celled sarcoma.*

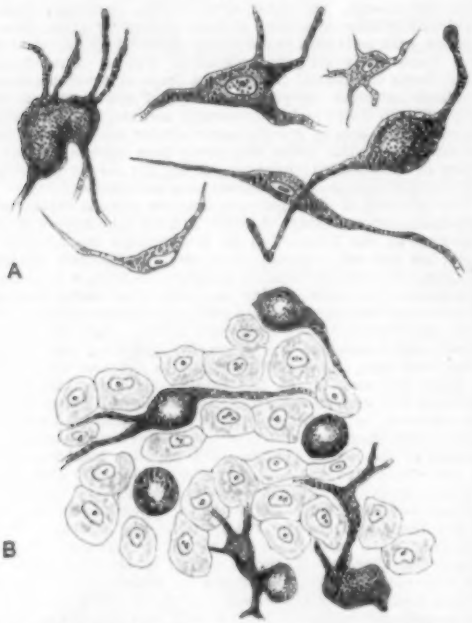
Many years ago, when my attention was closely devoted to the study of odontomes, I received from a veterinary friend a tumour as big as the egg of a turkey which he had removed from the maxillary sinus of a horse; on dividing it I found in the centre a soft pulp instead of the tooth I had hoped for; on microscopic examination the thickness of the tumour mass was found to be composed of dense laminæ of fibrous tissue, but the central pulp consisted of mycelium, and of a kind new to me. I carefully preserved the entire specimen and some years later Mr. A. G. R. Foulerton kindly investigated it and found that the pulp contained a streptothrix. Some years ago such a mass would have been classed among sarcomata. There is, however, a point in which sarcomata differ from all forms of infective tumours arising in connective tissue, as the result of local irritation due to syphilis, actinomycosis, tubercle, or foreign bodies, quite apart from the presence of a local irritant; the tissue resulting from such irritants is always of the simple kind, whereas in some of the sarcomata, especially those arising from periosteum, we meet with hyalin cartilage, well-developed spindle cells, some of them presenting a transverse striation such as is seen in the young cells, which ultimately form transversely striped (voluntary) muscle. The tissue which forms the neutral capsule to a focus of tuberculous or syphilitic infection never passes beyond the condition of simple fibrous tissue and is practically non-vascular, whereas the sarcomata are, as a rule, very vascular, and although in the rapidly growing forms they rarely pass beyond the condition of thin-walled channels yet in the slower growing kinds well-developed blood-vessels may be detected.

The difficulty of distinguishing between chronic inflammatory tissue and sarcomata is one which we may hope will be overcome in the laboratory; in this respect the bacteriologist has had some marked successes. Some years ago we had great difficulty in deciding between a gumma, a sarcoma, or a streptothrix mass; to-day we expect a laboratory worker to find in the first the spirochæta pallida, in the last the streptothrix, and we are full of hope that he will some day in the spindle-celled sarcoma find some distinguishing and easily recognised sign. It is very necessary to discover the cause of these tumours, for at the present time our histologic methods fail us most where they would be of the greatest use—namely, in providing a means of distinction between sarcomatous tissue and the innocent tissue of which so many fibroids of the uterus consist. The peculiar local reaction of the connective tissue in recognised parasitic diseases, whether syphilitic, actinomycotic, or echinococcic, is also a marked feature of some of the most typical cancers, providing them with what is known as the stroma. The formation of a stroma occurs in all malignant tumours except the chorion-epithelioma and is especially marked in the true cancers. The vascularity of sarcomata is an important feature in connexion with their dissemination, because the growth permeates the walls of the veins and the cellular processes project into, and creep along, their lumina much in the same way that an outrunner from a malignant tumour of the kidney will grow into the ureter. When sarcomata grow in the immediate neighbourhood of large veins like the internal jugular or the inferior vena cava and perforate it, the intravenous processes may be as big as the end of a finger, and sometimes a piece may be detached which is too large to pass the right auriculo-ventricular valve and causes sudden death. The part played by the blood stream in disseminating sarcoma is best seen in cases of melano-sarcoma, for the blackness of the pigment renders the secondary nodules particularly conspicuous, and in some instances the skin, viscera, and bones may be dotted with thousands of discrete black dots indicating the lodgment of minute sarcomatous emboli. When the primary growth arises in the skin it will invade the local lymphatic in the same way as cancer and give rise to enlargement of the local lymph glands.

MELANO-SARCOMATA.

Certainly the rarest and most remarkable tumours among the sarcomata are the pigmented species known as melano-sarcomata and they arise from the pigment cells of the uveal tract and of the skin. We have been accustomed to classify these malignant tumours roughly as round-celled or spindle-celled according to the prevailing type of cell visible in magnified sections; but there is another, but very rare, kind detected by Collins, which arises from the glandular epithelial cells in the ciliary body. Ribbert has published some observations (1897) which add great interest to these tumours. When the melano-sarcomata which arise in the choroid are examined by teasing, the cells then assume the stellate forms with which most of us are familiar in the pigment cells so abundant in the skin of frogs and other amphibians and particularly in cuttle-fishes. These are known as chromatophores, and Ribbert would have us so regard these cells in the choroid and in the skin, and he even suggests that the melano-sarcomata might be appropriately termed chromatophoramata. In regard to this it is necessary to point out that the black pigment (melanin) in the pigment cells of vertebrates only agrees (according to MacMunn) with that of invertebrates in the common attribute—blackness. The interest of Ribbert's observations in connexion with the subject of this lecture lies in the fact that in secondary nodules of choroidal melano-sarcomata which were found in the liver and brain, the cells were identical with the chromatophores so characteristic of the lamina fusca element of the choroid. (Fig. 1.)

FIG. 1.



Pigmented stellate cells from a melano-sarcoma. The cells in the lower part of the drawing are from a secondary nodule in the liver; the upper from a metastatic nodule in the brain. The primary tumour in each instance arose in the choroid. Teased specimens (after Ribbert).

These observations not only justify us in assigning these remarkable tumours to the genus sarcomata but furnish us with additional evidence of the object to which this lecture is devoted—namely, to demonstrate that every variety of cell in the human body, even the most specialised, with the three exceptions named (fat, voluntary muscle, and nerve cells), may be the source of a malignant tumour.

CARCINOMA.

The term cancer is now definitely restricted by pathologists to malignant tumours (or growths) arising in epithelium; even with this apparently clear definition difficulties arise not only in regard to the microscopic recognition of malignant epithelium but even in determining what cells are to be included in the term epithelium. Anatomists adopt a compromise and include as epithelium proper the cells clothing the skin, the surface of the alimentary canal from the mouth to the anus, and the cell investment of the genito-urinary organs. The cells lining blood and lymph-vessels and serous membranes—e.g., peritoneum and pleura—are known as endothelium, and finally the extraordinary cells covering the chorionic villi come into the same category and help to set at naught the best endeavours of the classifier. We have to realise that every variety of epithelium, using the term in its broadest sense, may give rise to malignant tumours; it matters not whether it be the coarse protective epithelium on the palm or the sole, the rich columnar cells of the gastro-intestinal tract, or the active covering of the chorionic villi and the delicate endothelial lining of the capillaries and serous surfaces as well as of lymphatics, but beyond all this we have come to realise that even the sex cells in the ovary occasionally display the destructive conditions covered by the term malignancy.

The most remarkable feature of protective and secretory epithelium is its vitality; this is well displayed when portions of it are accidentally detached from the skin by awls, forks, knives, or needles, and imbedded in the cutaneous tissues where it lives and grows, forming, in many instances, a cyst lined with epithelium (implantation cysts). The formation of cysts of this kind is best studied in relation with the eye. Punctured wounds of the cornea made with needles, forks, and even instruments as coarse as a rapier are sometimes followed by small epithelial cysts, and even hair growing on the iris. These cysts are known to arise from portions of conjunctival epithelium and in some cases eyelashes conveyed into the anterior chamber of the eye by the instruments at the time of the puncture. Implantation cysts of this kind are occasional sequelæ to carefully performed operations made to extract cataracts, &c. It is curious to observe that when definite and skilfully planned experimental grafts have been placed on the iris of rabbits it is rare that they survive, and even when they appear to take root, so to speak, it is only temporary and they either disappear or more frequently become extruded from the eyeball.

This vitality of epithelial cells is even more marked in those derived from cancers and the rate at which displaced cancer cells multiply depends in a very large measure on their environment. In discussing this part of the subject it will be shown that this attitude of the cancer cell to favouring situations has some interesting and important clinical aspects. In the first place it is necessary to point out that there is nothing specific about a cancer cell, nothing which would enable even the most expert pathologist to recognise it if placed singly under the microscope. In order to identify a cancerous growth it is necessary to have a section prepared from the suspected tissue and appropriately stained so that the arrangement or grouping of the tissues composing it can be studied before a reliable opinion can be formed in regard to it; even then in many instances doubt and difficulties arise, and it is quite a common thing for men of equal experience to differ in opinion as to the malignancy or otherwise of a given section of a suspected cancer.

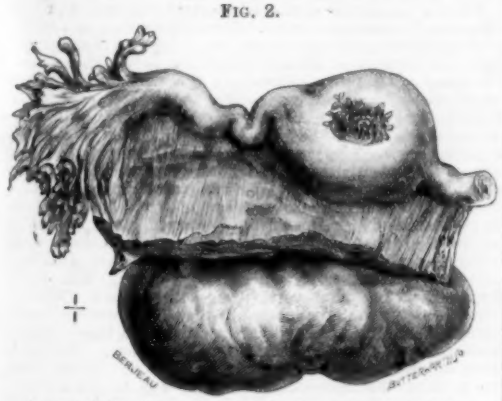
Another feature manifested by cancerous cells is their aggressive or erosive property. The majority of simple (or non-malignant) tumours are invested by a capsule of fibrous tissue which in a measure isolates them from the surrounding tissues in which they are imbedded, but in nearly all malignant tumours this investment is wanting and the cells are free to invade or permeate the parts immediately adjacent, and in this way the tissues, whether they be soft like muscle, fat, or mucous membrane, are quickly invaded, eroded, and destroyed. This erosive action is well seen where cancer comes into relation with bone, for even this tough tissue is destroyed and the growth permeates it, forming bays and recesses even in its toughest parts. This destructive action of the cancer cell is a source of grave danger, for when a large blood-vessel or an air passage or a serous cavity is implicated by cancer the walls of these structures are destroyed, leading to serious consequences, such as bleeding, difficulties with respiration, or infection of the great cavities of the body, which lead sooner or later to grave disasters. Moreover, it is this erosive action which lies at the bottom of the peculiar feature displayed by malignant tumours known as dissemination (metastasis). In many parts of the body epithelial cells are very active; some, as in secreting glands,

take from the blood material which they elaborate and then excrete for the use of the organism, a process termed for convenience metabolism: this in the ordinary affairs of life we call the making or manufacture of a substance. In the intestine the columnar cells withdraw directly from the digested food fat for conveyance into the lacteals; hence when these cells become cancerous they remain active but with perverted function, and they digest the natural tissues of the host and grow at the expense of his body. The best example of the aggressiveness of epithelium under normal conditions is that possessed by the cells of the chorionic villi. We have lately come to learn that it is one of the prime duties of this epithelium to erode the decidua in order to enable the cösperm (fertilised ovum) to imbed itself into the uterine tissues and bring about a firm fastening for the tissues which are ultimately to become a placenta. Under normal conditions this is effected without much disturbance. We have come to learn that under abnormal conditions this erosive or destructive action of these curious villi may become excessive and disastrous and the villi themselves are liable to behave in every respect like, and may actually become, a malignant tumour.

The aggressiveness of these cells is easily studied in the early stages of pregnancy in a Fallopian tube; when the cösperm settles on the tubal mucous membrane the chorionic villi quickly penetrate it and burrow into the muscular layer penetrating to the serous covering, and even this may be perforated by them and the villi project freely into the peritoneal cavity. This is shown in an exquisite manner by a gravid tube in the Museum of St. Bartholomew's Hospital. The parts were removed from a patient in the seventh week of her tenth pregnancy; she was seized with pain and signs of internal hæmorrhage and died in ten hours. The specimen shows a fairly circular perforation of the wall of the tube with the delicate chorionic villi projecting through it. (Fig. 2.)

In the uterus this perforating power of the chorionic epithelium is most destructively displayed when the villi are in the condition known as hydatidiform disease and cases have been observed and reported in which the villi have perforated the muscular and serous coats of the uterus, and processes of the villi have projected in several places from the serous coat of the uterus, as in the gravid tube depicted in Fig. 2. The uterus, especially when gravid, contains large blood channels and in the course of the

FIG. 2.



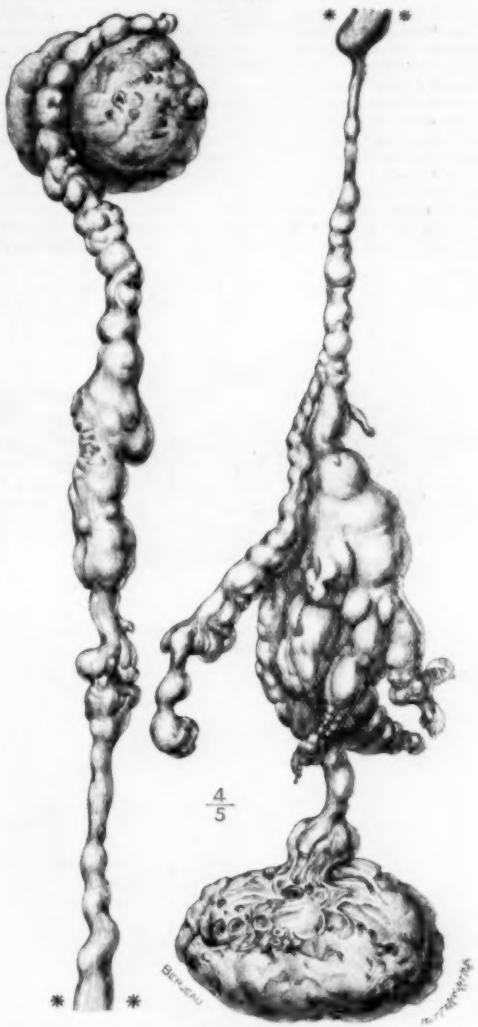
A gravid Fallopian tube with a circular perforation due to erosion by the chorionic villi. The patient was in the seventh week of her tenth pregnancy when she was seized with abdominal pain and died in ten hours. (Museum of St. Bartholomew's Hospital.)

erosion processes of the villi find their way through the walls of these blood-vessels, especially the venous channels, and project like buds into their lumina and the blood current detaches the surface cells, sets them free into the blood stream, and they become deported to the lungs or elsewhere as emboli. When the hydatidiform change is malignant (chorion epithelioma) these cellular emboli give rise to new foci of the disease (secondary or metastatic nodules) in the organs in which they may chance to be arrested. We have, then, in this picture a review of one of the routes by which cancer disseminates, but it is not the only way, but before considering this matter it will be worth while to discuss the relation of cancerous invasion of blood and lymph vessels as well as the behaviour of the blood itself to the invading cancer cells.

DISSEMINATION.

In reflecting on the dissemination of cancer by the blood-stream it has often struck me, as it must certainly have occurred to others, that minute cancerous particles ought theoretically to be present in the blood stream and often in considerable number in order efficiently to account for the multitude of secondary nodules sometimes found in cancerous individuals, especially if allowance be made for a proportion which fail to grow after their arrest. No one so far as I know has ever detected in the course of an examination of blood withdrawn from a living person microscopic cancerous particles. That cancer does involve the walls of blood-vessels and even the thoracic duct is well known, and an excellent example of this is represented in Fig. 3; the receptaculum chyli and the thoracic duct are solid throughout in consequence of cancerous

FIG. 3.

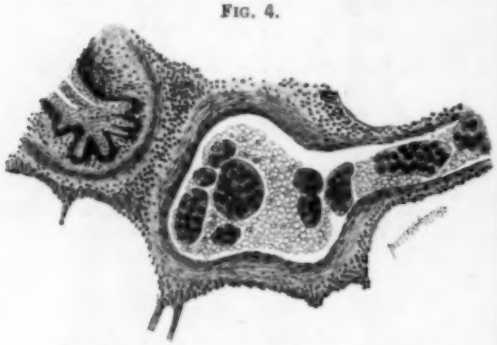


A thoracic duct and receptaculum chyli permeated throughout by cancer. The primary growth arose in the rectum. The specimen described and figured by Hillier is in the Museum of the Middlesex Hospital.

implication of its walls. In this instance the primary cancer arose in the rectum. A microscopic examination of the thoracic duct shows that its lumen is not merely blocked with cancerous elements resembling clot in a thrombosed vein but its walls are infiltrated and their proper tissue replaced by the cancerous tissue. Several careful descriptions of similar specimens have been described where the primary focus was situated in the stomach, uterus, or rectum. It is a curious and unexpected feature of cancerous blocking of the thoracic duct that it does not lead to any symptom indicating obstruction to the flow of chyle into the innominate vein. This is also the case when in the course of an operation at the root of the neck on the left side the duct has been injured such injury is followed by a flow of chyle and the patient rapidly emaciates; if then the duct be ligatured no inconvenience is produced and the patient recovers without any permanent ill-effects. A study of cancerous infiltration of the thoracic duct throws clear light on the enlargement of the lymph glands at the root of the neck, which is a frequent clinical feature of cancerous disease of the lower section of the œsophagus and stomach. A large hard lymph gland in the neck just above the clavicle in an obscure abdominal case has been considered for many years as an indication of the existence of cancer in, or in the near neighbourhood of, the stomach.

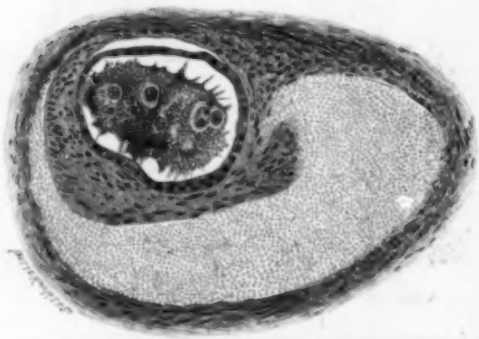
No observer has attempted to deny that cancer cells enter the blood stream; they gain access to it by implicating small veins, or by way of the lymphatics, and enter it through the thoracic duct; few observers have succeeded in determining what happens to the cancer particles which

FIG. 4.



A pulmonary capillary containing cancerous emboli (after Schmidt).

FIG. 5.



A cancerous embolus in a pulmonary capillary imbedded in a thrombus (after Schmidt).

succeed in passing into the blood stream. Some observations of great interest in relation to this have been made by M. B. Schmidt (Jena) which go to show that the blood is in a sense hostile to such particles, and his observations show that embolic infection of the lungs occurs with great frequency when cancer occurs primarily in the abdominal viscera, and that the nodules may be abundant in the pulmonary vessels yet the lungs appear normal to the naked eye.

The behaviour of the blood to cancerous intrusions as investigated by Schmidt is quite remarkable. When the cells enter the blood they excite thrombosis and the thrombus contracts upon the cancer cells and may ultimately destroy them. (Figs. 4 and 5.) Goldmann has also shown that the thrombosis of the blood in a vein implicated by cancer may serve as a barrier to cancerous invasion of the blood contained in it. This defending power of the blood is a very important fact, as it prevents the blood-stream from being colonised, and the destructive power of the blood in relation to cancerous emboli offers, as Handley points out, an explanation of the fact established by Teacher, that chorion-epithelioma, the only cancer certainly known to spread habitually by the blood, ends oftener than any other form of cancer in spontaneous cure, after incomplete operations on the primary growth. The detection of this prophylactic action of the blood against cancerous particles is very important and as interesting as its phagocytic action against bacterial invasion.

PERMEATION.

In opposition to the old idea that the dissemination of cancer throughout the body depends on the invasion of the blood, and which is no longer tenable, we must accept the conclusions formulated by Mr. W. S. Handley as a result of careful investigation on the spread of cancer by way of the lymphatics. This observer has made a painstaking investigation of the relation of cancer particularly in relation to lymphatics, and shows that when cancer implicates or permeates lymph-vessels it does not excite thrombosis and that the dissemination of the cancer takes place almost entirely by the lymphatics. The outcome of this investigation is of very great value and throws some light on some otherwise unaccountable complications of cancer which are of clinical value. Handley has shown that when the breast is attacked by cancer the cells implicate the lymphatics in the underlying fascia and slowly invade them, and in an insidious way spread throughout the body not only centrifugally, but where the fascia comes into relation by means of lympathics with the great cavities of the body, pleural and peritoneal, the cells spread to the serous membrane and in time cells invade the cavities and becoming engrafted upon the serous surface of lungs, liver, intestines, omentum, and the like, find an environment admirably suited to their multiplication.

There is one aspect of these important observations which has a peculiar interest for me. From the earliest part of my professional career I have taken a deep interest in the pathology and surgery of the abdominal and pelvic viscera, and for many years I was puzzled by the fact that although when cancer arises in organs like the breast, eyeball, or testicle, tongue, or lip, it is almost invariably unilateral, whereas in the case of the ovary carcinoma is usually bilateral. This led me to suspect that in many instances bilateral cancer of the ovaries might be secondary, especially as it was recognised in the course of post-mortem examinations that nodules of cancer in the ovary were of frequent occurrence in individuals dying from this disease attacking the breast or the stomach primarily; even then the frequency with which secondary masses of mammary or gastric cancer attacked both ovaries was a striking feature. The cases, however, which more particularly arrested my attention were those in which the ovaries formed large masses, sometimes almost as big as a football, and in which there were no suspicion that a primary focus existed elsewhere. Handley's observations, however, show us that when the cancer cells creep along the fascia and find their way to peritoneum, especially in the neighbourhood of the epigastrium and umbilicus, in which situation they come into relation with the round ligament of the liver and then invade the peritoneum, the cells colonise the peritoneal fluid and by force of gravity find their way into the pelvic cavity and become implanted on the ovaries and the uterus. It is clear that the ovaries offer a favourite nidus for the growth of cancer cells. It is now an established fact that a large proportion of the cases of bilateral cancerous ovaries are examples of engrafted or sown cancer and they are often secondary to carcinomatous infection of the gastro-intestinal tract. In years gone by many of the patients from whom bilateral malignant tumours of the ovary have been removed died with signs of intestinal obstruction, often within a few months of the ovariotomy, and the opinion used to be held that this was due to recurrence and dissemination of the growth; now we

know that it is the other way about—the patient has had a slowly growing primary cancer in the pylorus or the colon, situations where carcinoma is often of notoriously slow growth; permeation of the gastric or intestinal walls slowly continues and then the peritoneum is invaded and the peritoneal fluid colonised; the cancer cells, finding a favourable nidus in the ovaries, give rise to large cancerous masses obvious to the simplest methods of clinical examination. The proof that these bilateral malignant ovarian tumours are secondary depends on the fact that their microscopic characters vary with the situation of the primary tumour; if the breast be the primary seat the masses in the ovaries will be identical with mammary cancer; if in the gastro-intestinal tract they will exhibit the structural characters of pyloric, colic, or rectal cancer, as the case may be.

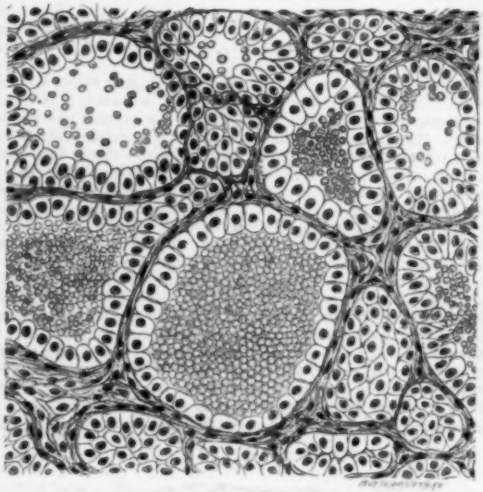
In one year I had the opportunity of studying five examples of this complication and among these patients one was a woman, 59 years of age, who had a large abdominal mass furnishing the clinical signs of an ovarian tumour associated with symptoms of intestinal obstruction. After a careful examination of the patient I came to the conclusion that she probably had cancer of the colon with secondary masses in the ovaries. I succeeded in removing the large bilateral ovarian tumours, one of which was as big as the woman's head and the other equalled her fist in size. On carefully examining the intestines I found a cancer at the ileo-cæcal valve and in order to prevent her dying from intestinal obstruction I joined a loop of ileum by a lateral anastomosis with the ascending colon. The patient made an excellent recovery and was known to be alive six months later. The structure of the ovarian tumours corresponded with that of a typical cancer of the colon.

Like many other workers who have devoted attention to the histology of tumours, I have been greatly perplexed by the identity of the secondary growths with the primary tumour, which in many instances is so complete that a competent histologist on examining microscopically a secondary nodule of cancer in the skin, brain, or in the eyeball can tell with reasonable, and occasionally with absolute, certainty that the primary growth arose in the breast, the stomach, or the rectum. Now we know that in the majority of instances cancer is disseminated by permeation and that the metastatic deposits are actually due to transplantation of fragments of cancerous tissue, it ceases to be surprising that these grafts should give rise to tumours like those to which they originally belonged, any more than that a twig of rue or a sprig of rose should if it take root produce a rue bush or a rose tree. It is, however, a matter of common observation that there are certain situations and organs in the body which are extremely favourable to the vitality of cancerous particles and in this particular the parable of the sower applies as well to the sowing of cancer cells as to the dispersal of seed. In the case of cancer, the liver and the ovaries are the most fertile situations in which cancerous particles can lodge. In regard to the liver Hillier suggests that the massive formations of secondary cancer so often seen in this organ may depend on its large size, small proportion of connective tissue, and its abundant blood-supply copious and rich with food products. Cancerous growths contain a large amount of glycogen and this substance existing in the hepatic cells may also be a favouring condition.

ENDOTHELIOMATA.

From the histologist's point of view there is no difficulty in distinguishing between typical examples of cancer and sarcoma, but there is a remarkable group of tumours displaying malignancy but in this respect holding an intermediate position between the cancers and sarcomata which arise from endothelium, and named in consequence endotheliomata. Tumours of this group arise from endothelium lining blood-vessels, lymph vessels, and serous membranes, and they are divided into species according to the primary structure from which they start: thus, a tumour arising from the endothelium of a blood-vessel would be a hæmendothelioma (Fig. 6), and one originating from lymphatics would be termed a lymphendothelioma. Such tumours are not uncommon in connexion with the gums and the nasal mucous membrane; the salivary glands, especially the parotid; and they are met with in the skin, starting from moles and warts. Endotheliomata also arise from the pleura and peritoneum. The majority of the tumours now classed as endotheliomata were formerly assigned to the sarcomata, and the interesting species now known as perithelioma was identified by Ziegler as angeio-sarcoma and regarded as a sarcoma arising from the walls of arterioles. Its microscopic structure is well shown in Ziegler's well-known drawing (Fig. 7) taken from a specimen which occurred in the thyroid gland. I have recently removed a perithelioma of this kind which grew in the gall-bladder.

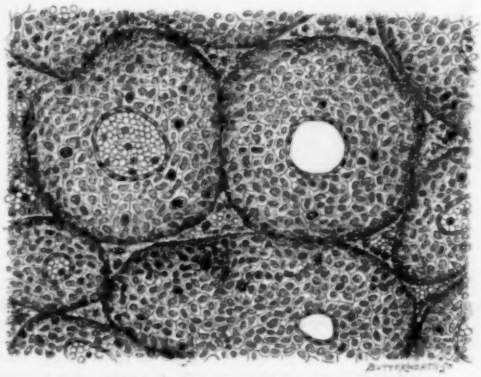
FIG. 6.



A magnified section of an endothelioma from the kidney (after Ziegler).

It is possible that the malignant tissue in a perithelioma arises from the perivascular lymphatics. Although from the clinical point of view the endotheliomata may for convenience rank with the sarcomata, they possess well-marked histologic features and are worth careful study, but in connexion with the object of this lecture they are especially

FIG. 7.



A magnified section of a perithelioma from the thyroid gland (after Ziegler).

interesting inasmuch as they prove that the inconspicuous flattened epithelium (endothelium) lining small blood- and lymph-vessels is liable, like the large columnar cells of the intestine and the active secreting cells of a gland, or the aggressive epithelium of the chorionic villus, to take on a malignant action and form a tumour which may in the course of a few months destroy the life of the individual. Some endotheliomata are of very slow growth and may exist for 20 years or more merely causing unsightliness, then without any obvious reason grow rapidly and kill.

MALIGNANT EMBRYOMATA.

Up to this point I have endeavoured to show that when any cell in the body exhibits malignant changes it is thereby impelled not merely to multiply but it assumes constructive functions; thus connective-tissue cells under this impulse not merely forms more connective tissue but they may produce hyaline cartilage, bone, and even striated muscle tissue. Glandular epithelium under malignant stimuli will reproduce the pattern of the gland to which it belongs—mammary, colic, uterine, thyroid, or the like. We now proceed to discuss an even more remarkable aspect of malignant construction—namely, that manifested by the sex cells.

It has been long recognised that homologous twins are the production of a single ovum, and it also is known that those remarkable twin aberrations in which the second individual hangs like a parasite to an otherwise normal individual is, so far as concerns the autosite, an absolutely harmless though often a highly inconvenient partnership in cases where the undeveloped twin is attached externally. More rarely the undeveloped twin occupies one of the great internal cavities of the body (pleura or peritoneum) and is then termed an internal teratoma. [Some recent observations have indicated that internal teratomata are by no means harmless. Internal teratomata are found occasionally in any of the great cavities of the body, including the cranium, thorax, abdomen, and pelvis. In the cranial and thoracic cavities they are rarely more complex than a dermoid, such as is so common at the angle of the orbit. In the thoracic cavity they may contain formed organs, and in the abdomen they have been found to possess such completely formed limbs that there can be no doubt concerning their nature. A remarkable example of this is shown in Fig. 8.

FIG. 8.

An internal teratoma from the abdominal cavity (after Young, 1808).

Internal teratomata of this character are usually contained in a cyst. These highly developed internal teratomata we have always been accustomed to regard as perfectly innocent masses but our belief in this received a rude shock when Ritchie described an example which occupied the mediastinum and destroyed the life of a man 24 years of age. A microscopic examination of this tumour disclosed the presence of tissue identical with that seen in the malignant chorion-epithelioma and it had given rise to secondary deposits in the liver and lungs.

In dealing with parasitic fœtuses and teratomata a great difficulty arises, for, strange as it may sound, these tumours in their typical forms are as easily distinguished from the common dermoid as a butterfly from a buttercup, and arise like homologous twins from dichotomy of the sex cell (ovum), yet in their simplest forms they are so difficult to distinguish that it is impossible to assign them with certainty to a particular genus; it is to my mind one of the most remarkable facts in relation with malignancy to find a group of tumours with a well-developed twin at one end and a highly malignant tumour at the other. It is true that every genus of the so-called benign tumours (except lipomata) contains varieties which shade away indefinitely from the type species and display malignancy, but there is nothing in the whole range of oncology so remarkable as the malignant aberrations of tumours derived from the sex cells. We have yet to consider the embryomata. It has been maintained by several writers during the past 15 years, myself among them, that dermoids of the ovary differ in so many respects from those found in connexion with the embryonic fissures (sequestration dermoids) that they have a distinct genetic origin and the results of modern investigation serve to show that there is a complete series between the simple single chambered ovarian cyst and the very complex ovarian embryoma which contains in a confused heap all the tissues which compose the body, including muscle, nerve, and specialised epithelial stuff like enamel-organs and retinal pigmented cells. Moreover, we have come to recognise, thanks to Wilms, that even the simplest ovarian dermoid contains evidence of its origin from a sex-cell (ovum). These tumours consist of a cavity filled with grease and shed hair; at one part of the cyst wall there is usually a skin-clad area of variable extent covered with hair; associated with this surface there is usually an embryonal rudiment in the form of a teat or nipple-like process (pseudo-mamma); its size varies greatly, and often it is inconspicuous and easily overlooked; in others it is so large as to strike the eye of the least observant. The tissues in this embryonal rudiment are often most diverse; I have found fat, cartilage, bone, muscle, nerve, epithelium of all kinds, thyroid gland, teeth, hair, sebaceous glands, and retinal epithelium. It is now maintained by some writers that the embryonal rudiment represents the imperfect development of a sex cell and that the cyst has formed around it in response to the irritation and accumulation of the hair and shed epithelium and grease. There is another variety of ovarian dermoid which manifests itself as a solid growth with small cystic spaces dotted throughout and there is no definite limiting cyst wall. When the solid parts of these tumours are examined they exhibit in confusion the elements of an adult body in the form of glands, epithelium, teeth and hair in process of development, nervous tissue, and connective tissue in all stages of growth, &c. It is useful to refer to these as "solid embryomata" or teratomata in contrast to the common form of ovarian dermoid which may be termed "cystic embryoma" of the ovary. The relationship of the two conditions is shown in the fact that a cystic embryoma and a solid embryoma may co-exist in the same ovary. There is, however, a great clinical difference in the behaviour of these two varieties of ovarian embryomata, for observation has taught us that the solid variety is an intensely malignant tumour.

I have always regarded the typical ovarian dermoid (cystic embryoma) as one of the most benign tumours which attack woman. There is an interesting phenomenon connected with them requiring consideration and which I named epithelial infection. It has been observed in association with a dermoid which has burst into the peritoneal cavity that the serous membrane has been dotted with minute nodules furnished with tufts of hair; some of them were sessile on the peritoneum and others hung on slender pedicles or lodge among adhesions. This condition may be explained by regarding the nodules as arising from the epithelium shed by the burst cyst becoming engrafted on the surface of the peritoneum; moreover, a careful histologic examination of the sessile nodules shows that the connexion is in the nature of a graft, for the tissues of the nodules do not infiltrate the membrane on which they grow.

In the case of solid embryomata the story is different, for it has been discovered that when these tumours exhibit malignancy they manifest it like the true cancers—that is, by dissemination and recurrence after removal. The metastatic deposits in the peritoneum may take the form of grafts, as in the case of cystic embryomata but in the deadly forms the metastasis is probably due to the circulation, because in some instances secondary deposits have been found in the lungs, brain, and in the substance of the liver. The remarkable feature in connexion with malignant embryomata is the complex character of the secondary deposits, for they may contain like the parent tumour hair, glands, hyaline

cartilage, and occasionally neuroglia and nerve cells. A large proportion of the recorded examples of these tumours occur in girls and among the recorded cases (about 20 in all) half the number of the patients were under 16 years. The youngest patient was four and the oldest 30 years of age. One of the earliest examples was observed by Jessop (1871) in a girl of 13 years.

It must not be forgotten that those large multilocular tumours of the ovary which are best described as ovarian adenomata, and the loculi of which are lined with large mucin cells, behave exactly like the hair-bearing embryomata, for they sometimes burst and infect the peritoneum with cells which engraft themselves on the serous membrane, but there are varieties which behave like the malignant solid ovarian embryoma and recur rapidly after removal, disseminate widely, and destroy the patient in a few months. The interest which surrounds this group is due to the fact that we have to deal with tumours arising in the epithelium of the ovarian follicle and in the sex cells which may be as benign as simple fatty tumours, or as malign as the deadliest cancers or sarcomata and yet capable of producing the most complex and specialised tissues found in the body, not merely in the tumours themselves but in the metastatic nodules which they originate; thus any theory invented to account for sarcomata and carcinomata, and in fact any form of malignant tumour, will have to explain these extraordinary aberrations of the sex cells.

We have hitherto believed that the sex cells (ova) remain passive until they are stimulated into activity by a spermatozoon; there are reasons for believing and observations which support the belief that asexual division may occur whilst the ovum is still in its follicle, and a fair amount of activity prevails among the chromosomes of ova immediately preceding their maturation. These changes are important in connexion with the remarkable cytological observations of Farmer, Moore, and Walker in regard to the gametoid type of cell division which occurs in the essential cells of malignant tumours. Observations of this kind tend to place speculations on the cause of malignant disease in a new light, for we must now realise not only that it is something which exercises a malign influence on the cells of formed tissues, but it has a potent influence even on the sex cells, and that the liability to malignancy besets every cell of the body from the earliest period of embryonic life to extreme old age.

A Clinical Lecture

ON

PELVIC APPENDICITIS WITH PAR-APPENDICAL ABSCESS AND CYSTITIS.

Delivered at the General Hospital, Birmingham, on Feb. 8th, 1907,

BY GILBERT BARLING, M.B. LOND., F.R.C.S. ENG.,

SURGEON TO THE HOSPITAL.

GENTLEMEN,—At my last ward demonstration I discussed with you the case of this patient because of some unusual features which it presented and because of the difficulties in diagnosis which it provided. When we first met to consider the case you had an opportunity of examining the patient under an anæsthetic and so of interrogating with your own fingers the local condition present in the lower abdomen and pelvis. The trouble for which the man was admitted to hospital was a most stinking cystitis and I ventured to tell you at the examination that the explanation of his illness would be found in his abdominal cavity and that he would have to be treated by abdominal section. To-day I am able positively to confirm this opinion and I propose to go fully over the whole case again, not only because of its extreme interest *per se*, but because it illustrates a serious condition which has not received the recognition due to it.

The patient is a male, aged 42 years, sallow and anæmic, voluble, neurotic, and very difficult to obtain a connected history from; he wishes, as many patients of this type do, to interpret his own symptoms and to explain away any that he thinks are threatening; this, I believe, is responsible in part for the delay in recognising the nature of his disease. He tells us that his bladder symptoms first arose in January, 1906, when he "caught cold"; this caused him to micturate frequently and with pain, whilst he had also pain across the loins. He was told by his medical adviser that he was suffering from cystitis; later both testicles swelled and became very painful and in the opinion of a physician the patient was suffering from gout. The illness on this occasion lasted 23 weeks, after which time he resumed his duties as a clerk and continued to work steadily until admission to hospital on Jan. 23rd, 1907, though he felt ill and from time to time sought medical advice. We learn that his bladder has been sounded for stone on two occasions and according to his own account he has received many different diagnoses of his case. For the last two months the acute condition in his bladder from which he suffered a year ago has returned, there has been very frequent and painful micturition day and night, and the urine has been very offensive. The patient's past history tells much of interest when it has been cleared of verbiage and explanations. Ten years ago he experienced an attack of acute abdominal pain in the region of the umbilicus, lasting from three to four days; it was accompanied by vomiting and followed by constipation only overcome by strong aperients. Since that time many such attacks have occurred, on the average about three in a year, some quite slight, others more severe, the worst compelling him to stay in bed for a fortnight. The only other points in the history are a statement that he was treated for syphilis by a quack, but there is little probability that he really suffered from this disease, and there is certainly no evidence than he did. Rheumatic fever occurred at five years of age. Summing up all these details it seems clear that the patient had cystitis for the first time a year ago, that he has since not been entirely free from it, though he has for the last few months managed with difficulty to go on with his work. Prior to the cystitis he had numerous acute abdominal attacks spread over years and recurring at varying intervals up to the present time.

On examination the lower abdomen was full but not rigid, just inside the brim of the pelvis on the right side some slight thickening could be detected, but the right iliac fossa was free from tenderness and swelling. Per rectum the finger detected much thickening and infiltration of the anterior rectal wall and the base of the bladder behind the prostate, some fulness was felt on the right side, but on the left a large dense mass of much greater extent than on the right; it was fixed, leathery in consistence, and non-fluctuating, whilst the rectal mucous membrane was free from œdema. Cystoscopic examination detected only a diffuse inflammatory condition of the mucous membrane of the bladder, no ulceration was observed, nor any abscess discharging into the bladder. The testicles appeared to be healthy and no nodules suggestive of tubercle could be detected in either. Examination of the urine showed a large amount of pus but tubercle bacilli were not found. The patient's temperature was 100° F. on admission and the pulse ranged from 80 to 90.

Our investigation so far appeared to show that the cystitis was not tuberculous in origin, ulceration of the bladder was absent, no tubercle bacilli could be found in the urine, and there was no evidence of tubercle elsewhere in the patient's system. I lay stress on these points because the dense thickening felt per rectum was consistent with a tuberculous peritonitis which provides so many surprises in the abdominal cavity. The absence of calculus and of tumour in the bladder as the cause of the cystitis had also been demonstrated. I pointed out at our first examination of the patient the probability that the key to his present condition was to be found in his past history of acute abdominal attacks; these were very suggestive of attacks of appendicitis. The absence of an inflammatory thickening in the right iliac fossa was not inconsistent with this, for in many patients the appendix lies in the pelvis and in that cavity we find the result of the inflammatory process, pus and adhesions, which have their starting-point in appendical inflammation. To-day I am able to confirm this view from what was found at the operation performed five days ago. The abdomen was opened in the middle line just above the pubes; the vermiform appendix was found densely adherent on the right side of the pelvis and surrounded by a collection of pus which amounted to a few drachms. Further stripping of adhesions

detected another entirely separate collection of pus, most putrid in smell, some ounces in all, which lay between the rectum behind, the bladder in front, and the left wall of the pelvis laterally; this is what I refer to as a "par-appendical" abscess. The pelvis was drained by a Mikulicz gauze bag and the greater portion of the wound was sutured. The interval which has elapsed since the operation has passed satisfactorily, the general abdominal cavity has remained free from infection, the temperature is normal, the pulse is 80, the urine is free from smell and practically is free from pus, and the symptoms of frequent and painful micturition have disappeared.

Clearly the cystitis arose by infection from the abscess on the left side of the pelvis, not by the pus bursting into the viscus but apparently by continuity of tissue. In several hundred cases of appendicitis I have only once before seen this complication. The patient, a girl, aged 12 years, had been ill with appendicitis for two months and when transferred to my care was suffering from cystitis and an abscess in the pelvis. In this patient again the cystoscope failed to show any direct communication between the abscess and the bladder; the infection of the latter appeared to have arisen merely by the contiguity of the collection of pus. Thorough evacuation and drainage of the abscess cured the cystitis without any additional measures. Rare as is cystitis, pelvic appendicitis, on the other hand, is quite a common condition and not infrequently is overlooked. At the onset we find the symptoms which generally indicate appendicitis—pain experienced about the central area of the abdomen, vomiting, quick pulse, elevation of temperature; local tenderness, rigidity, or perhaps tumour in the right iliac fossa are absent, but the tenderness is found if looked for over the pelvic area. Constipation, so generally present in appendicitis, is often absent and diarrhœa takes its place; in addition, rectal tenesmus with small discharges of watery mucus at frequent intervals is complained of in some cases, difficulty in micturition also arises and pain after the act is then generally present, and occasionally retention of urine occurs. When symptoms suggestive of appendicitis arise and the local phenomena in the right iliac fossa are absent, examination by the finger in the rectum will often recognise an inflammatory swelling which explains the nature of the attack. The anterior wall of the bowel is found swollen, œdematous, and infiltrated; there may be a well-marked mass occupying a good deal of the pelvis, capable of being palpated bi-manually. A softened, almost fluctuating, area may be detected in this, indicating a collection of pus just adjacent and suggesting an easy route for its evacuation; or, on the other hand, as in the patient under consideration, if the case is a chronic one the mass felt may be tough and dense to a degree quite precluding any attempt at opening through the rectum and requiring for its removal the opening of the abdomen.

Par-appendical suppuration is uncommon but can hardly be described as rare. It appears to arise in this way: the inflammatory attack starting in the appendix involves a considerable area of the peritoneal cavity, most often the pelvic cavity and parts adjacent. The patient struggles on, part of the sero-purulent fluid is absorbed and localised pockets of pus well circumscribed by adhesions are left; the infection remains alive but does not spread. One of these pockets of pus is usually but not always found around the adherent appendix, the other or others at some distance, but commonly in the pelvic cavity. Whilst this man whose case I have taken for my text has been in the ward a little child has been admitted with a similar condition. Three months ago the abdomen was opened and pus was let out, but the cause of the abscess does not appear to have been determined. Since that operation three acute abdominal attacks have occurred and three days ago I re-opened the abdomen to find the appendix in the pelvis, perforated at its base and with a small abscess around it, whilst to the left of the middle line of the pelvis another much larger collection of pus was found quite shut off from that around the appendix. Examples such as this could be multiplied, but enough has probably been said to indicate to you the importance of these cases of pelvic appendicitis and the ease with which they may be recognised if proper investigation is made.

THE RED CROSS CONFERENCE.—It is announced that the King and Queen will receive the delegates to the International Red Cross Conference at Buckingham Palace on Saturday, June 15th. Levée dress will be worn at the reception.

SOME NOTES ON THE CONTROL OF SUPER-NORMAL ARTERIAL PRESSURE.[1]

BY GEORGE OLIVER, M.D. LOND., F.R.C.P. LOND.

I PROPOSE to submit for your consideration and discussion some of the conclusions respecting the treatment of super-normal arterial pressure, to which I have been led more particularly during the past few years. In doing so I cannot, however, hope to add much to your practical knowledge or to what has been already done by other workers; nevertheless, I trust these notes, which are the outcome of a large amount of observation in a field particularly well adapted to the clinical study of arterial pressure, may contain some suggestions which you may turn to good account in practice. We should keep in mind that though variations of the arterial pressure may produce certain pathological effects they themselves are but results. When, for example, the arterial pressure is raised but temporarily the cause may be, and, in fact, usually is, of nervous origin—either psychical or reflected; but when the pressure rise is persistent it may be regarded as the outcome generally of some alteration in the chemical composition of the plasma or of organic changes in the circulatory mechanism, which may or may not have themselves resulted from some bio-chemical cause. It follows, therefore, that in attempting to control a persistent rise in the arterial pressure we should if possible learn what are the etiological factors at work. Unfortunately, at present our knowledge in this direction is extremely limited and we must content ourselves with treatment on general lines, with the application of such practical suggestions as may be derived from physiology, which is, after all, the mother of medicine.

The method of observation followed.—I have employed the clinical fluid manometric method which was brought forward some years ago by Roy, Leonard Hill, and Riva Rocci, using more particularly the hæmomanometer which I described two years ago. I did not then realise that Leonard Hill was the first to apply the ordinary manometric device of fluid pressure on *both* ends of the index of a sphygmometer, as shown by the specification of his instrument patented in 1898 and recently brought under my notice, but not hitherto placed on the market. Having thus unwittingly devised the same mechanical arrangement, my instrument, though possessing certain distinctive features, will not be produced in its original form. I show you the model of an instrument on which I am now working. In it there is a simple combination of mechanical details not hitherto employed—so far as I know—which secures certain advantages; such as the impossibility of leakage (the apparatus being valveless) and the attainment of increased precision in reading the systolic and diastolic pressures. I also show you the hæmodynamometer, the pocket blood-pressure gauge which I introduced nearly ten years ago. With this instrument most of my earlier observations were made and I still find it convenient and accurate in clinical work. The pressure readings it affords are quickly made, without entailing discomfort to the patient or causing local or general disturbance of the circulation. It is therefore time-saving and is preferred by sensitive patients, who frequently resent circular compression of the arm, or even of the forearm, especially when high readings are necessitated by the arterial pressure. I have lately improved this instrument so that it now furnishes the systolic as well as the diastolic pressure.

Dietary treatment.—When the arterial pressure is raised the principal aim in our dietetic directions should be to select a diet which has the least stimulating effect on the circulatory organs. Hence we should reduce as much as possible not only the bulk of each meal but also the proportion of those constituents of the foodstuffs which more particularly stimulate the cardio-vascular apparatus, such as various salts, soluble extractives, active principles and other bodies (e.g., alcohol), which are directly absorbed without change and may be regarded as exogenous hormones between the digestive tract and the circulatory apparatus, stimulating the heart on the one hand and the capillary circulation on the other.[2]

[1] The substance of this paper was read at a meeting of the Therapeutical Society on April 16th, 1907.

[2] See some good illustrations of the value of this teaching in a recent paper by Dr William Russell, Brit. Med. Jour., vol. i., 1906.

Most observers are well agreed that the supply of meats of all kinds should be lessened below the proportion ordinarily taken, and some are satisfied merely to reduce or to disallow the red meats (beef and mutton), while they permit the taking of white and young meats (fish, poultry, veal, &c.) in ordinary quantities. Though the practitioner nearly always is inclined to select what are called lighter meats, I cannot say that I have observed any difference of effect on the arterial pressure of the various forms of roast or fried meats—whether as beef, mutton, fish, poultry, &c. A more important difference in this respect seems to me connected with the way in which the meats are cooked—whether roasted and taken with the gravy, or boiled and served without the broth. I therefore make it a rule in these cases to substitute as much as possible boiled for the roasted or fried forms of fish, fowl, beef, mutton, &c.; and to exclude from the dietary meat extractives, such as meat soups, gravies, &c. The proportion of green vegetables and fruits should be increased and carbohydrate foods may be taken in moderation. As a rule I think the cases do best on the reduction of an ordinary diet as a whole, with a diminution of the animal and an increase of the vegetable derived food-stuffs. The reduction of the ingesta to physiological needs and expenditure is particularly important in the management of cases of high arterial pressure; for some such patients who are inactive feel weak and run down and crave for the stimulant effects of tonics and a full meat diet, with excess of salt and other condiments and sometimes of alcoholic drinks.

The question of fluids—their nature, quantity, and best time for their ingestion—is not a matter of indifference. The bulk of the meals should be kept down by reducing the quantity of fluid taken with them. Fluid, of which the best is water, should be taken more freely when the stomach is empty—e.g., a tumbler an hour before meals or night and morning. Preference should always be given to soft or distilled and non-aerated water; or to mildly alkaline waters, as potash and soda salts improve the peripheral circulation; and it is best generally to advise the water to be taken warm. Hard water—i.e., water containing calcium salts in such proportion as to raise the hardness above five degrees—is best avoided, especially in the elderly with a premature rise in the arterial pressure, in whom there may be an inadequate elimination of calcium salts by the bowels and kidneys. Though calcification is generally believed to follow and not to precede degeneration or involution it may turn out that inadequate elimination may lead to the deposition of calcium salts in the arteries, kidneys, and other tissues of the aged.[2] As the combination of calcium with an organic acid (e.g., citric) deprives the calcium ion of its specific physiological effect on the blood,[4] the addition of lemon juice to hard water may be a useful corrective in the elderly and gouty.

The question of beverages, such as tea and coffee, is still somewhat unsettled, some observers regarding them as particularly injurious. Long-continued indulgence in strong tea and coffee is, I think, injurious but I see no objection to these beverages in strict moderation, and when their ingestion is not followed by disturbing results, such as palpitation, flushing, giddiness, or wakefulness. As to alcoholic beverages my impression is that high-pressure cases as a class are better without them, but that many cases of moderate or slight increments of pressure may be allowed small quantities without injurious effects, especially if, as a rule, we exclude wines and beer. There is no doubt that when the vaso-motor system is intact alcohol (as in the form of whisky or gin) is vaso-dilator and has but a transitory effect in raising the systolic pressure. The latest experimental work on alcohol (that of Professor W. E. Dixon of Cambridge)[5] shows that in moderate doses alcohol in normal animals and in man may raise the systolic pressure a little (and especially in animals showing signs of circulatory failure) but it may fail to do so, while it diminishes the diastolic pressure ("in other words the difference between the systolic and diastolic pressure tends to increase"), and that it increases the activity and output of the heart, an effect which is ascribed to the fact that alcohol is a readily assimilable food substance.

Chloride of sodium as a constituent of foodstuffs and as a condiment deserves some notice in the treatment of super-normal arterial pressure. The work of Widal and Javal[6] and other continental observers has shown that super-chloridation and superhydration of the tissues take place when the kidneys become impaired in their permeability to the passage of chlorides, as in chronic nephritis and probably in other phases of renal inadequacy not recognised as organic; and that some of the manifestations of Bright's disease (e.g., œdema, albuminuria, &c.) are closely associated with this tissue retention of chlorides and water and are relieved by a dechloriding diet. At present I cannot say from my own observation what is the rôle, if any, which the retention of chlorides plays in the production of the high ranges of arterial pressure which we meet with in chronic interstitial nephritis. Probably it is insignificant. To apply efficiently a dechloriding diet the mere omission of salt as a condiment is insufficient. We must besides this select those articles of food which in the uncooked state contain the least percentage of salt, and omit the addition of salt in their preparation for the table. The diet thus obtained is practically, though not absolutely, chloride-free. Such a saltless diet may consist of vegetable soups (made without meat stock), fresh green vegetables, fruits, nuts, fats (fresh butter, cream), salt-free bread, farinaceous vegetables (potatoes, rice, peas), and sugar. Dufour (in 1905), Guinon and Pater (in 1906), and Déléarde (this year) obtained excellent results from a dietary like this in scarlet fever and scarlatinal nephritis. But in chronic nephritis and in other cases of high arterial pressure such a strict chloride-free diet will scarcely be necessary, though it may perhaps be adopted with advantage for a while now and then when accessions of pressure arise. In fact, a saltless diet soon becomes so distasteful to the majority of patients that it is difficult for them to continue it for more than a week or two at a time. A strict milk diet, sufficient in quantity to maintain the health and condition of the patient—e.g., six pints a day—supplies to the system from 100 to 200 grains of salt (different authorities giving the salt percentage of milk as ranging from 1·6 to 3·0), so that such a diet is by no means saltless. Nevertheless, experience shows that a milk diet or a lacto-farinaceous diet for a few weeks has sometimes an excellent effect on high arterial pressure and on the general health.[7] Unfortunately, milk is often badly borne in these cases, especially when the bowels are inclined to constipation and the liver is inactive; but even then it may often be made to agree by adding to it citrate of soda or potash, or when there is gastric acidity sodii bicarbonas or liquor magnesii carbonatis. But a lacto-vegetarian diet is more suitable in most cases; a moderate daily quantity of milk (e.g., two or three pints) when taken with vegetable foodstuffs (bread, rice, green vegetables, and fruits) should not seriously raise the low percentage of ingested salt and, moreover, it advantageously increases the proportions of the proteid and fat, especially when combined also with cream, cheese, and eggs. Cheese in moderation is perhaps the least objectionable form of proteid food in these cases. Meats of all kinds contain even a smaller percentage of native chloride than that of milk; but the cardio-vascular stimulant effect of the extractives which they contain more than counterbalances any advantage they possess in their relatively low percentage of salt. Boiled meats, however, containing less salt and extractives than roast meat may be added to the dietary without disturbing its comparatively salt-free character. Fresh-water fish (such as trout, tench, pike, and crayfish), which contain much less salt than salt-water fish, may also be taken if we do not require to adhere to a strict minimum supply of ingested salt. The condiments—pepper, mustard, vinegar, lemon, &c.—none of which are contra-indicated, are useful in relieving the insipidity of the dechloriding diet.

[2] An interesting communication, The Part Played by the Calcium Salts in the Blood and Tissues, appears in the British Medical Journal of April 20th, 1907, in which Dr. W. Blair Bell refers to three calcium physiological periods, "The third period is that of late life, when no calcium salts are required for the building up processes or for those of reproduction. These salts then accumulate in the tissues, especially in the vessels ..... atrophy occurs, and the individual gradually declines."

[4] See J. Coleman: The Bio-Chemical Journal, April, 1907.

[5] The Action of Alcohol on the Circulation, by W. E. Dixon, M.A., M.D. Lond.

[6] Journal of Physiology, March, 1907. La Cure de Déchlorisation, par le Dr. Fernand Widal et le Dr. Adolphe Javal, Paris, 1906.

[7] See an address on Arterio-sclerosis by Dr. W. P. Herringham, Brit. Med. Jour., vol. i., 1907, p. 61. According to the recent experiments of C. J. Coleman, milk as a diet does not appear to increase the coagulability of the blood, as much of its calcium content is not available as a factor in controlling the coagulation, for it is probably combined with *organic* (and not *mineral*) acids, which combination does not shorten the coagulation time. (The Bio-Chemical Journal, op. cit.) So it is not improbable that if calcium favours a rise of arterial pressure (*vide seq.*) milk may fail to do so, just as it fails to increase the coagulability of the blood.

When the systolic arterial pressure maintains a high range (e.g., over 220 millimetres) this dietary should be tried, and especially when there are albuminuria and any œdema, however slight. But even when the arterial pressure is equally high and there is not even the merest trace of albumin in a pellucid urine, we may still entertain a suspicion of kidney insufficiency—such as may diminish the permeability of the chlorides, even though it may not appreciably affect that of the urea; and we may find a trial of the dechloriding diet as useful in such cases as in the albuminuric ones. When the kidneys are sound and normally permeable to sodium chloride it is not likely that the ordinary use of salt will interfere with the eliminatory work of the kidneys or will raise the arterial pressure, except quite temporarily, for normal renal elimination of the chloride is too rapid to allow of a permanent rise in the percentage of it to take place in the plasma and tissue fluids. We may therefore infer that if there is a permanent retention of chlorides it will be invariably pathological and not a physiological condition, and our aim and treatment is to restore the chloride equilibrium by reducing the amount of the ingested chloride to that which is eliminated by the kidneys. The question, therefore, is one of renal inadequacy in the elimination of the chlorides.

Should the arterial pressure be permanently raised without there being any failure in the elimination of chlorides, urea, and the xanthin bases the reduction of ingested salt is not likely to lower the arterial pressure, though it is well to test the matter by observation. In one such case I observed that the pressure actually rose on reducing the salt and diminished on allowing the free use of it; in the former case, after correcting for the renal elimination of the different amounts of the ingested chloride, the total daily urinary solids diminished and in the latter increased; and this observation was verified by repetition. May it not be that salt in the normal state of the kidney favours the elimination of nitrogenous waste products, which are less freely excreted when the renal permeability to chloride of sodium fails?

I have observed that as we grow older (say over 65 years or so) there is apt to arise a tendency to indulge more and more in the use of salt. When the arterial pressure rises unduly in elderly subjects we should do well to look out for this disposition. The suggestion of the late Sir W. Roberts, that we should substitute chloride of potassium for chloride of sodium as a table salt, is supported by Bunge,[8] who has shown that when potassium is ingested in excess of sodium a loss of the latter from the system takes place. Unfortunately, chloride of potassium is by many disliked as a table salt, but it is less objectionable when combined with 50 per cent. of chloride of sodium, and I have found the following a useful formula in high-pressure cases: Lithium benzoate, 1 drachm; or potassium benzoate, 3 drachms; potassium chloride, 2 ounces; sodium chloride, 1 ounce: a half-drachm measureful to be used.

Tobacco smoking is sometimes looked on as a questionable habit when the arterial pressure is increased, and knowing that nicotine raises that pressure and will even produce something like arterio-sclerosis in animals we may be disposed to look on smoking with suspicion. But smoking does not necessarily imply the absorption of all the nicotine contained in tobacco, as when, for example, the weed is chewed. For combustion breaks up the nicotine into such products as pyridin, carbon monoxide,[9] &c., which predominate in the smoke, though this may also contain a little nicotine. Hence the physiological effects of smoking on the arterial pressure will be due to the combined action of all the products of combustion as well as those portions of nicotine which escape destruction and which may be directly absorbed from the end of a cigarette or cigar. From the observations which I have made on myself and other normal subjects not habituated to smoking I find that it always raises the systolic pressure (e.g., from 10 to 20 mm. Hg.) without producing a corresponding rise in the diastolic pressure; in fact, the latter pressure will generally either remain unaltered or may even fall, the pulse pressure range (i.e., the difference between the minimum and maximum pressures) being increased. The effect, as a rule, passes off quite quickly, generally in ten minutes or so; but notwithstanding this fact it is undesirable in the management of cases of super-normal arterial pressure to permit indulgence in a habit which raises the systolic arterial pressure. Besides Barazzoni found that in subjects with high tension pulses the rise of the tension produced by tobacco smoking is more exaggerated than in subjects with low or medium tension and leads to dyspnœa, palpitation, præcordial distress, vertigo, tremors,[10] &c. In most cases when the habit of smoking can be given up it is best to encourage the patient to do so; and abstinence can generally be easily enforced in those who have been light or occasional smokers or who experience slight palpitation, heart hurry, anginal pain, or other discomfort after smoking. But in the habitual smoker it is not always easy even to limit the indulgence, though we should endeavour to do this whenever possible.

Rest and exercise.—The value of absolute rest in the management of high-pressure cases should be emphasised; for I doubt if we all quite realise it as fully as we ought to do. We not infrequently see its calmative influence on the arterial pressure of bed cases (as in hospital), the pressure readings in similar pathological conditions being generally lower in them than in patients leading their ordinary lives. Absolute rest is the best sedative of exalted ventricular action, that large factor in maintaining super-normal pressure, especially in the higher ranges; and this is often apparent even when the response of the peripheral arteries to a vaso-dilator is either greatly limited or is not apparent. In many such cases increments of pressure recur from cardiac excitation induced reflexly or bio-chemically, when recumbency for varying periods is invaluable, even though the heart muscle may not show signs of actual failure. The periods of absolute rest required may vary from a day once or twice a week to even three or four weeks at a time; and after the lapse of the longer intervals of resting, care should be taken to see that the assumption of the accustomed exercise is gradual, or the good effects of the recumbency may be nullified.

When the arterial pressure rises beyond a certain moderate degree the patient is apt to become somewhat lethargic and inactive. We should in such cases encourage the taking of as much regular, moderate, and equable exercise as the patient's limit will safely permit. Walking is the best of all exercises, but, unfortunately, even when indulged in quite moderately, these patients frequently complain of early "fagging." Then in suitable cases gentle cycling on roads of low gradients and with a low-geared cycle is preferable, or horse riding, a form of exercise which we are apt to overlook in this mechanical age. All sudden forms of exertion should be avoided, such as straining at stool, &c. But the prescription of exercise when there is a rising pressure in the elderly requires some discrimination and caution. Many men over 60 years of age, who have led sedentary lives, on retiring from business are apt to adopt the ways and games of young men, and being unconscious of the fact that they have already used up much of their endowment of rubber in their arteries are apt to come to grief in cardio-vascular breakdown. Such cases are an object lesson to us to preach moderation in physical exercise to the elderly in whom we detect signs of diminished elasticity and play in the vascular walls, so that they may be induced to economise their remnant of rubber. Still, on the other hand, moderate activity in the elderly is generally beneficial; hence a sudden retirement from active business often leads to a premature break-up. The cardio-vascular stimulation of exercise should always be avoided just after a meal. The patient should then rest recumbent or semi-recumbent for a good part of an hour; and after that interval has elapsed he should always take exercise however limited it may be. Special exercises, such as tension exercises, and graduated resistance and slow deep breathing exercises, are often valuable in widening the peripheral vessels and in letting down the arterial pressure; and massage is useful when the heart begins to weaken.

Balneological treatment.—Some experience in the use of different kinds of baths in the treatment of these cases has clearly indicated that some balneological procedures are more potent than others in relieving super-normal arterial pressure. But in the few words which can here be devoted to the subject of baths I can only indicate the general drift of that experience. Immersion in warm fresh water lowers the arterial pressure, chiefly by relaxing the cutaneous and splanchnic arterioles; but this effect is quite transitory and the cutaneous circulation is left more amenable than before the immersion to the contracting influence of a lower

[8] G. Bunge: Text-book of Physiology and Pathological Chemistry (translated by F. A. Starling), 1902.

[9] See THE LANCET, Jan. 2nd, 1904, p. 43; and Feb. 6th, 1904, p. 395 (Dr. J. S. Thompson).

[10] Gazzetta Medica Italiana, 1905.

temperature. But when the water contains or is charged with certain chemicals (such as chlorides, sulphides, extract of pine, peat, and carbonic acid) the lowering effect on the arterial pressure is prolonged. Hence the calmative influence of peat, sulphur, pine, saline, and carbonic acid baths followed by dry, warm packing on the circulatory organs and the nervous system, and their adaptability to the treatment of those cases of increased arterial pressure associated with some phase of nervous irritability, or with contraction of the cutaneous blood-supply and some inefficiency of the skin as an emunctory organ. A course of such bathing will produce good results, even when the arterial pressure is moderately increased. But I rarely find it desirable to rely upon these still baths entirely, for they are apt to leave the muscular system relaxed and toneless. They are more valuable as intercurrent baths in a course of massage bathing which exerts a more decided effect in lowering the arterial pressure while maintaining or even improving the nutrition and tone of the muscles. Warm massage douching, exemplified by the Aix-les-Bains douche followed by the needle bath of alternating temperature and warm pack, is, according to my observation, one of our most valuable balneological procedures for treating cases of super-normal arterial pressure. In it we have in synergic combination the action of warmth, massage, and vibration in diverting the blood to the peripheral vessels of the richly endowed vascular area of the muscles as well as that of the skin.

Electrical treatment.—D'Arsonvalisation. I have been occasionally struck with the beneficial effect of the D'Arsonval current—merely the general effect for 20 minutes daily. Bipolar massage with this current or the sparking application of it to the limbs and body is also now and then useful in addition. Dr. Montier has adduced some striking evidence[11] in support of the reducing effect of D'Arsonvalisation in hypertension, he having, for example, observed in some cases, even after a few séances only, a fall from such high readings as 220 or 230 mm. Hg to 150 or 160—a fall which was, moreover, remarkably persistent notwithstanding the discontinuance of further electric treatment. I have not myself observed such encouraging results but my observations have shown that D'Arsonvalisation is often, and especially in elderly subjects, a valuable adjunct to other treatment (dietetic and balneological). Electric light and ozone baths, which secure active cutaneous elimination at a comparatively low temperature, have also proved useful in many of my cases. I have not seen any specially encouraging results in these cases from other forms of electric treatment, such as electric immersion baths (faradic or galvanic).

Care of the skin.—It is important in these cases to maintain the cutaneous circulation at its optimum efficiency. Warmth diverts to the skin a comparatively large volume of blood and this lowers the arterial pressure; hence the value of warm efficient woollen clothing and of warm equable climates (such as those of Jamaica, India, or Egypt) during our winter and spring months. Cold and especially cold windy climates are most injurious in high pressure cases. Cutaneous elimination should be encouraged; a thorough perspiration should be obtained once or twice a week by means of a lamp bath (home Turkish bath) or an incandescent light bath or a Turkish bath, followed by efficient massage and removal of effete epithelium. By active perspiration the plasma and tissue-fluids are relieved of an excess of sodium chloride and metabolic residua.

Venesection.—So far I have had no experience of venesection in the ordinary course of treatment of high-pressure cases, apart from the actual accidents of uræmia and cerebral hæmorrhage. Now that we have in the clinical manometer an instrument of precision to guide us in selecting the right case for venesection, should we not avail ourselves more often than we do of the rapid hypotensive effect of this measure when suspiciously threatening symptoms arise, or when in certain plethoric subjects a very high pressure does not respond sufficiently to the ordinary preventive measures, especially if the free use of vaso-dilators is not effectual? Under such conditions many years ago I used to apply Junod's boot, which acts like a magnified cupping glass, with apparently favourable results, but I think a limited venesection would be still more effectual than this. The apparatus consists of (1) a metal boot sufficiently large to accommodate the leg up to the thigh where the opening is rendered airtight by a broad band of india-rubber, and (2) an air-pump attached to a nozzle communicating with the interior of the boot through which the air within is rarefied.

Medicinal treatment.—Sometimes dietetic treatment, regulation of rest and exercise, and some balneological procedure—such as thermo-massage—will suffice to correct the increment of arterial pressure, more especially in its slighter degrees. But in most cases it will be found that some medicinal treatment or other in addition will be either useful in expediting the progress or will be necessary. That treatment may be directed into one or other of the following lines—namely (1) to secure (*a*) free evacuation and correction of the liver and bowels and (*b*) gastro-intestinal antisepsis; and (2) vaso-dilatation and sedation of the vaso-motor nervous system.

I. *Evacuant and antiseptic treatment.*—There is no doubt that all forms of super-normal arterial pressure are benefited less or more by purgatives; not so much, however, by the occasional aperient dose as by a daily increased discharge from the bowels. The benefit thus derived may be ascribed to (1) the stimulation and correction of the liver and other abdominal glands; (2) the daily baling out through the intestinal mucous membrane of salt[12] and water from the blood and the tissues with stimulation of the intermediary circulation; and (3) the removal of intestinal toxins. To be efficient the aperient must produce a free watery discharge. Saline purgatives should be taken in hot water in the early morning, such as sodii sulphas or soda tartarata or sodii sulphas with magnesii sulphas, and in addition there should be an occasional mercurial dose—e.g., once or twice a week (calomel or pilula hydrargyri) at bedtime. Just now we regard the generation of toxins in the gastro-intestinal area (chronic intestinal auto-intoxication) as the possible, if not probable, cause of several ailments of obscure origin, such as gout, arterio-sclerosis, &c. Metchnikoff has shown us the importance of avoiding the ingestion of bacteria in raw fruit and vegetables by heating and cooking them. But cooking is objectionable in depriving certain raw fruits and vegetables of their delicate and appetising flavour. In the case of grapes, salads, and perhaps strawberries, we may, however, render them aseptic without impairing their natural flavour by dissolving one of Dr. Rideal's tablets of bisulphate of soda in ten ounces of water and using this as a wash water. Intestinal antiseptics are often useful when the arterial pressure is persistently raised, such as benzo-naphthol, salol, salacetol, and tylmarin (acetylated ortho-coumaric acid), which tend to ease the peripheral circulation like the other members of the aromatic series. Mercurials are also not only antiseptic but relax the arterial wall, and I have observed that parvule doses of calomel (tabloids of one-tenth grain) twice or three times a day may be taken for a few weeks now and then with a favourable effect on the arterial pressure. The red oxide of mercury tabloids ($\frac{1}{20}$th grain) are also worthy of a trial. Small daily doses of sulphur—such as the compound sulphur or the guaiacum and sulphur tabloids—are not only useful as laxatives but in favouring a fall of the arterial pressure.

II. *Apressor remedies.*—Arterial pressure may be reduced either by diminishing the output of the ventricle or by widening the bed of the whole arterial system and especially its peripheral portion. Experience shows that it is futile, if not injurious, to attempt to obtain a depressor effect and to maintain it by drugs, which lower the action of the heart. Just lately Coley of Philadelphia, for example, has show that such drugs as aconite, veratrin, antimony, and chloral, are unsatisfactory and scarcely justifiable remedies for the purpose of reducing the arterial pressure.[13] Our choice of apressor remedies is therefore restricted to those which favour dilatation of the calibre of the arteries and thus ease the flow of blood through the distal portion of the circulation. Their physiological action on the arterial pressure (distal and proximal) is easily demonstrated by the manometer in man by administering a dose of nitro-glycerine; and I have elsewhere shown how useful it is in the course of clinical observation thus to gauge the vaso-dilator response of the arteries.[14]

Desideratum in an apressor remedy.—Control of a persistently high arterial pressure by drugs is less or more

[11] Journal de Physiothérapie, 15 Août, 1905.

[12] The normal proportion of salt in the fæces is greatly increased in diarrhœa. Vide L'Elimination du Chlorure de Sodium par la Diarrhée. (Comptes Rendus de la Société de Biologie, 1903, p. 929.)

[13] Brit. Med. Jour., 1906, vol. ii., p. 1454.

[14] Studies in Blood-Pressure, p. 92.

unsatisfactory. Should an impression be made there is the gradual failure to maintain it, or the great liability—often, indeed, the certainty—of the recurrence of the higher pressure on discontinuing the remedy or on reducing the dose of it. The effect is, indeed, rarely curative. The desideratum in an apressor remedy seems to be the discovery of some agent which will modify arterial pressure on the lines followed by nature—some product or other which may be continued without harm so long as it may be required. We may as experimental work proceeds find the solution of this question in physiological chemistry, and we are already beginning to realise that arterial pressure may be the resultant of the interaction of pressor and apressor products supplied to the blood by the internal secretions of the various organs and tissues and that the higher ranges of pressure we meet with may arise from the predominance of the pressor products, the antibodies being generated in insufficient quantity.

The depressor effect of ingested thyroid.—We know that the adrenal and the pituitary glands and the kidneys yield pressor bodies; but our knowledge of apressor products is much more limited—the internal secretion of the thyroid gland being about the only one with an experimentally proved depressor action. I have observed that the ingestion of thyroid gland increases the calibre of the arteries and lowers the arterial pressure, and in many cases of increased arterial pressure it is undoubtedly useful, especially in subjects over 45 or 50 years of age of a gouty or obese type, but it is not a remedy which should be prescribed in a routine way in the majority of cases. When given in guarded dose with each meal it will often modify the pressure and improve the general health, and then it may with occasional supervision be safely continued with advantage for long periods. It has been thought by some (Stockman, Rolleston)[15] that the iodides exert their beneficial effect on arterio-sclerosis and heightened arterial pressure by stimulating the thyroid; they do not, however, reduce the arterial pressure. And just lately Chalmers Watson[16] suggests that the good results obtained from a bread-and-milk diet observed by Herringham[17] in certain cases of arterio-sclerosis with increments of arterial pressure arise from the profound influence of a diet in which milk largely preponderates on the structure of the thyroid gland which he has demonstrated in animals—this therapeutic effect being according to him "indirect, the thyroid gland spontaneously recovering under the influence of lessened strain on its functional activity."

The depressor effect of some other normal constituents of the plasma.—But I think we may question whether the internal secretion of the thyroid is the only apressor agent present in the plasma, notwithstanding its obvious importance. Is it not probable that the arterial pressure is normally modified by some of the saline constituents, some tending to raise the pressure, while others lower it in proportion to their preponderance? The quantitative relation between the various salts of the serum is probably maintained within certain limits in health, and in disease that relation may at times be disturbed either by the undue ingestion or the defective elimination of certain salts (such as calcium carbonate and sodium chloride). Somewhat cognate physiological facts point to the important influence of the salts of the plasma. Ringer has shown that the salts of calcium, sodium, and potassium must exist in an ideal circulating fluid in the right proportion and those of calcium are of singular importance in maintaining the contractility of the ventricle, and Waller has demonstrated that potassium depresses and calcium augments the variations of electric response in nerve. Moreover, we also know the important rôle played by calcium in the coagulation of blood and milk. May not a similar relationship subsist between the various salts of the plasma and the blood pressure? In man the depressor effects of the potassium salts, whether as carbonate or citrate, on the arterial pressure are often more striking than might be expected from the results of experimental work; and the maintenance of a lower level of pressure thus obtained may be partly due to the corrective effect of the ingested alkaline salts on the disturbed balance produced by the predominance of pressor salts. In practice we frequently combine the nitrates and nitrites with the carbonates or citrates of potassium. Sir Lauder Brunton associates nitrate of potash (20 grains) and nitrite of sodium (from a half to two grains) with this alkaline treatment (potassium bicarbonate) in a large tumbler of water in the early morning; and I have observed excellent results from a continuance of this prescription in many cases of decided super-normal pressure. Alkalies are generally well borne by such cases for long periods. But my observations in man dispose me to conclude that there may be other salts normally present in the plasma which tend to lower the arterial pressure, such as the hippurates and benzoates. I have given these salts a good clinical trial during the past two years or so and I am satisfied that they are useful in cases of hypertension and of moderate increments of arterial pressure. As a rule they improve the general health and well-being and are well adapted for long-continued use in the preventive treatment. In many cases of hypertension, especially in women and overworked anxious men, I have observed that the association of ammonium bromide with ammonium hippurate or benzoate is still more beneficial in providing a higher degree of sedation of the vaso-motor nervous system than is furnished by either remedy alone. There are also other remedies furnishing hippuric acid to the system which are worthy of trial in cases of super-normal arterial pressure, such as quinic acid, styracol, tylmarin, which are obtainable in the tablet form. It is interesting to find how many remedies with a benzene nucleus are useful in gout as well as in arterial hypertension.

Exogenous apressor remedies.—I shall not discuss the important therapeutic range of the *nitrites*, for this is well established and common knowledge. *Iodine* as KI, &c., has for many years been relied on as our sheet-anchor in the treatment of cases of arterio-sclerosis, whether it is associated or no with a rise in the arterial pressure. In such cases the iodides are surprisingly well borne in large doses by the mouth without producing symptoms of iodism or of depression, but my manometric observations show that they have no direct effect on the arterial pressure, and therefore they agree with those of Stockman, Burnet,[18] Janeway, and some other observers. But notwithstanding this fact, I have often found a long continuance of the iodides in small doses most useful in cases of super-normal arterial pressure. *Citric acid and the citrates* have been employed to reduce the coagulability of the blood by decalcifying it[19] and I believe they have also been prescribed as apressor remedies. The use of the *salts of magnesium* (e.g., magnesii citras or chloridum) is also suggested as decalcifying agents by the work of Dr. J. Malcolm, who has shown that the ingestion of the soluble magnesium salts causes a loss of calcium in adult animals and hinders its deposition in young growing animals.[20] These salts may therefore prove useful in the senile who are prone to calcium deposition with increment of arterial pressure. *Sparteine* has recently been suggested by Professor Dixon of Cambridge[21] for lowering the arterial pressure; but I have not as yet made any clinical observations with it, as I hope to do.

The amenability of increased arterial pressure to control.—Cases present decided differences in their response to treatment. This disparity is doubtless largely due to variations in the cause and in the stage of development of the pathological condition. The effects of treatment also differ considerably in the two classes of cases—namely, in the cases in which we can freely prescribe rest and regulation of exercise and life generally and in those who must follow their avocations and their ordinary routine. In the former class the results are often more satisfactory, even when the pressure runs into the higher ranges. But the fact remains that the pressure is much more amenable to control in some cases than in others in which it may be, and not infrequently is, practically uncontrollable. My observations lead me to the general conclusions—to which, however, I have met with some exceptions—that there is an inverse ratio between the observed reaction to vaso-dilatation and the degree of persistent super-normal pressure; and that in cases following their ordinary course of life the amenability of the pressure to be controlled by treatment diminishes in a general way in proportion to the rise of pressure—the cases having persistent systolic pressures of over 200 mm. Hg furnishing by far the majority of those

[15] Clinical Journal, 1905.
[16] Brit. Med. Jour., vol. i., 1907.
[17] Op. cit.

[18] James Burnet: Therapeutic Action of the Iodides, THE LANCET Sept. 8th, 1906, p. 646. Dr. Burnet advocates the subcutaneous use of iodipin.
[19] See C. J. Colman, op. cit.
[20] On the Inter-relationship of Calcium and Magnesium Excretion, by J. Malcolm, M.D., Journal of Physiology, 1905, p. 183.
[21] Brit. Med. Jour., 1906, vol. ii., p. 1456.

which resist appreciable modification by treatment. But these conclusions are only such as might have been anticipated, for a high percentage (probably about 90) of the cases presenting systolic pressure of over 200 millimetres are cases of chronic nephritis or of diffuse arterio-sclerosis—with or without renal implication; and in a large proportion of those in which the pressures are below 200 millimetres the rise is, as a rule, the outcome of conditions less or more remediable. The percentage of cases regarded as amenable to treatment will also be considerably influenced by the practitioner's conception as to whether the pressure is normal or super-normal in any particular case, as there being no such narrow line as that of the normal temperature each observer, though knowing the general range of the normal pressure, gradually builds up from his experience a correction for individual instances, being mainly guided in this by the collateral signs and symptoms and by the effects of treatment in borderland cases. When, for example, he discovers that a systolic arterial pressure of 145 or 150 millimetres, which he regarded as doubtfully normal, may be reduced to, say, 125 or so, with an improvement all round in the patient's condition and health, he will conclude that the latter and not the higher pressure is the patient's normal reading. Such experience is likewise useful in showing that we can thus pick out cases still amenable to treatment which might otherwise be allowed to drift into the less controllable and higher ranges of super-normal pressure. Our clinical management of blood pressure thus becomes more preventive. It seems to me, therefore, desirable to subject most cases in the doubtful area (from 145 to 160 millimetres) to corrective treatment before accepting from 145 to 150 millimetres in a routine way as the parting line between the physiological and pathological areas.

An increment of the arterial pressure is a result.—Finally, I wish again to emphasize the fact that super-normal arterial pressure is not itself a primary condition to be attacked or controlled as such. It is invariably a result of some pathological cause or causes, and it is, moreover, often indeed a necessary result of conditions which we cannot remove. While realising what are the ill effects of high arterial pressure and trying to modify them as best we may by our attempts to moderate the pressure, we are apt to forget that that pressure is not infrequently a necessary evil and should sometimes be regarded as a compensatory effort or as one of the natural defences of the body. On this point Dr. Theodore C. Janeway, who has done so much to advance the clinical study of blood pressure, has recently remarked, after referring to the futility of drugs to keep down the blood pressure, "Another common experience is that the steady downward progress with falling blood pressure, when heart weakness supervenes, is often made worse by arterial dilators. If improvement comes under digitalis, for instance, the pressure usually rises. These observations find their readiest explanation, if we believe that for such patients an average level of arterial pressure far above the normal is absolutely necessary to insure the requisite speed of capillary blood flow. For them the optimum pressure for the maintenance of a normal circulation may become 200 mm. or more, instead of 100 to 145 mm. ..... Where no symptoms of a threatening nature exist these preventive measures alone are called for. Under such circumstances a systolic blood pressure of 200 mm.—yes, even 250 mm. and over—is not incompatible with a number of years of comparative comfort and activity, particularly if the response to treatment is favourable and the patient coöperates heartily."[22]

Farnham.

[22] Some Common Misconceptions in the Pathological Physiology of the Circulation and Their Practical Significance, by Theodore C. Janeway, M.D., New York Medical Journal, Feb. 2nd, 1907.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The thirty-first annual meeting of the above association was held at 20, Hanover-square, London, W., on May 7th. The report gave the number of members as 624 and of student associates 350. During the year the Scotch and Irish branches had been dissolved and 11 new branches formed in provincial centres with medical schools—namely, Belfast, Bristol, Cardiff, Dublin, Dundee, Edinburgh, Glasgow, Leeds, Liverpool, Manchester, and Newcastle-on-Tyne. Others were about to be formed and it was expected that the members in these localities would do good work among the medical students. After refreshments Professor G. Sims Woodhead, the President, gave an address on the Medical Justification of Total Abstinence.

A CASE OF CHLOROMA.

BY FRANK M. POPE, M.D. CANTAB., F.R.C.P. LOND.,
SENIOR PHYSICIAN TO THE LEICESTER INFIRMARY.

With Microscopical and Pathological Notes by WILLIAM E. REYNOLDS, M.B., CH.B. EDIN., *House Physician to the Infirmary.*

THE following case is one of such rarity and deep interest that it seemed worthy of publication.

The patient, a boy, aged 14 years, was admitted into the Leicester Infirmary under the care of Dr. Pope on Feb. 13th, 1907, complaining of pallor, swelling of the eyes, shortness of breath, and weakness. He gave the following history. Two months before admission the patient noticed that he was easily tired and unfit for work. At this time he was getting paler and was suffering from a bad cough. Two weeks later he noticed hæmorrhagic patches on his legs which had come on without any apparent cause or injury. These were described as small, painless, and having a purple colour. A few days later they appeared all over his body but not many at a time. There had been no epistaxis or bleeding from the gums. Three weeks before admission he became aware that his eyes were swollen; this was more noticeable in the morning. He kept at his work until a fortnight before admission. For the last ten days he had to remain in bed. Two or three days before admission he noticed "bruises" on his face and legs; these were present on admission. He never suffered any pain during his illness but steadily became weaker and paler. The bowels were constipated. The only fact worthy of notice regarding his previous health is that he dislocated the left elbow on August 7th, 1906. He was treated in the casualty department of the Leicester Infirmary, recovery being uneventful. He had eight brothers who up to the time of his admission were quite healthy and with no history of any disease.

On admission he presented a pronounced waxy colour, looked very ill, and was considerably emaciated. There were marked puffiness of the eyelids and slight proptosis. The conjunctivæ were chemotic and pale; there was also some subconjunctival ecchymosis, most marked beneath the upper lid of the right eye. A few spots which had the appearance of pustules were present over the bridge of the nose, left eyebrow, forehead, and right side of the chin; they contained what seemed to be yellow pus; their bases were œdematous and of a dull greyish colour but were not painful or tender to touch. There was a glandular enlargement of slight degree involving the cervical glands—both superficial and deep groups—the axillary, inguinal, and femoral glands. General development was good. The respirations were 24 per minute and normal in character. He had a frequent hacking cough but no expectoration. The temperature was 100° F. He complained of great thirst, was constantly calling for water, but refused all nourishment. The bowels were usually constipated. The mouth was very dry and the teeth, gums, and inner surfaces of the lips were covered with thick brown crusts. The mucous membrane was pale; there were no hæmorrhages; the gums were not spongy and did not bleed readily. The tonsils were not enlarged. His abdomen moved freely with respiration, no distension or ascites being present. The liver was not enlarged; its lower edge was just at the costal margin in the right mammary line. The spleen was easily palpable and extended two inches below the costal margin; it was slightly tender on palpation; on percussion its upper limit was found to extend to the eighth interspace, half-way between the posterior axillary line and the scapular line; its posterior limit appeared to be about an inch from the vertebral spines. He was slightly dyspnœic on exertion; the pulse numbered 104 beats per minute and was regular and soft. The heart's apex beat was visible, diffuse, and felt in the fifth space a quarter of an inch external to the left mammary line. On percussion the deep cardiac dulness was as follows: the upper border was at the third left rib, the right border was at the lateral sternal line. At the mitral area there was a soft systolic murmur propagated for three inches into the axilla; the second sound was faintly heard but clear. At the aortic area the sounds were faint and no murmur could be detected. Both sides of the chest moved freely on respiration. The percussion note was impaired over the right base at the back where the breath sounds were broncho-vesicular in type. Over the left lung at the

back the breath sounds were puerile; in front they were faint, with prolonged expiration. The vocal resonance was increased over the base of the right lung. There were a few rhonchi all over the lungs and especially over the right base. His pupils were slightly dilated but equal, and reacted to light and to accommodation. On ophthalmoscopic examination numerous large and recent fan-shaped retinal hæmorrhages were seen, the discs were markedly œdematous and indistinct, and the vessels were not clear. There was a slight lateral nystagmus but no paralysis of the ocular muscles. The vision was markedly impaired, especially in the right eye. The colour sense was normal. His hearing was defective: one had to talk loudly to make him hear; he was quite unable to hear a watch tick with the right ear and could only just hear it with the left. The knee-jerks were absent; the plantar reflex was exaggerated but normal in type. There was incontinence of urine. His skin was moist and smooth. The temporal region was puffy but there was no discolouration. Over the external aspect of the right knee there was a large greenish yellow patch about three inches long, the periphery of which faded off into a yellow tint; another, two inches long, was present over the instep of the left foot; there was no sign of injury on the skin over these patches. On running the fingers over the subcutaneous surface of both tibiæ small hard nodules of about the size of a pea, continuous with the shaft of the bone, were felt. The specific gravity of the urine was 1010; it was alkaline in reaction, clear, and of a light amber colour; there was no albumin, peptone, albumose, or heteroalbumose present; there was a deposit of stellar phosphates.

A provisional diagnosis of acute leukæmia was made. The blood was examined on the day after admission. On puncturing the lobe of the ear it was found to bleed readily and continuously, the blood being very pale and its coagulability seemed decidedly diminished. The result of the examination was as follows: hæmoglobin, 45 per cent.; red blood cells, 2,450,000 per cubic millimetre; and white blood cells, 197,500 per cubic millimetre. Blood films stained by Jenner's and Ehrlich's stain gave a differential count of—large lymphocytes, 20 per cent.; small lymphocytes, 19 per cent.; polymorph neutrophiles, 14 per cent.; myelocytes (mostly large, one coarsely granular eosinophile), 25 per cent.; mast cells (coarsely granular basophile), 5 per cent.; coarsely granular eosinophiles, 6 per cent.; and unclassified, 11 per cent. Transitional forms were so numerous that an accurate count was difficult; there were no large mast cells such as are found in spleno-medullary leucocythæmia. The white cells were generally of a good shape, with the exception of a few myelocytes, which showed irregular or double nuclei and disintegration and vacuolation of their cytoplasm. The red cells were of good shape, normoblasts were scanty, while blood platelets were numerous. On Feb. 19th he complained of failing eyesight; chemosis was more marked; the pupil reflexes were, however, normal. The yellow spots which had the appearance of pustules were more numerous; on cultivating the contents of these a pure growth of staphylococcus albus was obtained. On the 21st the patient was weaker; he complained of intense thirst and vision was less distinct. There was complete ophthalmoplegia of the right eye, whilst on movement the left showed a lateral nystagmus. The left pupil reacted to light. He could only distinguish objects a few inches away with his left eye. A small swelling of about the size of a marble had appeared on the right temporal region; this was circumscribed, soft, and deep fluctuation was elicited; there was no pain or redness. The nodes which were present on admission were appreciably larger. A culture taken from the blood proved to be sterile on aerobic cultivation. On the 23rd the eyes were more prominent, the swelling on the right temporal region was more pronounced and semi-fluctuant, and it had acquired a distinct pale greenish tint. The gums were bleeding slightly. The patches on the legs and feet had remained of the same tint, but had become more extensive. He was decidedly more anæmic, as was confirmed by a blood examination which showed considerable alteration: hæmoglobin, 25 per cent.; red blood corpuscles, 900,000 per cubic millimetre; and white blood corpuscles, 360,000 per cubic millimetre. Differential count: large lymphocytes, 19 per cent.; small lymphocytes, 17·5 per cent.; myelocytes, 32 per cent.; polymorph neutrophiles, 8 per cent.; mast cells, 6·5 per cent.; coarse eosinophiles, 2 per cent.; and unclassified, 15 per cent. There was a marked increase of blood platelets, the red cells showed considerable granulation and poikilocytosis, and normoblasts were still scarce but distinctly increased. A fresh film in a warm stage showed very little amœboid movements of the cells. On the 25th the patient was much weaker; he was delirious and cried out frequently, complaining of intense pain in the eyes. There were complete ophthalmoplegia of both eyes and total deafness. Small subcutaneous nodules of about the size of a pea were found on the outside of the left leg; these were firm and painless and not discoloured. Adventitious sounds were more numerous at the bases of both lungs. On the 26th he was obviously dying; he was still delirious and crying out with pain; he now had incontinence of fæces as well as of urine; his pulse was irregular and small in volume. On the 27th he became comatose and towards the evening the respirations became more laboured and 44 to the minute. His pulse was fuller in volume and numbered 120 beats per minute. There was a small patch of dulness in the left interscapular region, over which the breath sounds were tubular in type and the vocal resonance was increased. His temperature remained much at the same level. He gradually became worse and died at 4.30 A.M. the following morning, 14 days after admission. His condition was one of a rapidly progressing anæmia, with an irregular continued fever varying between 101° to 99° F. His spleen became appreciably larger; nine days after admission it was three inches below the costal margin, and two days later it had increased half an inch further down; it was always slightly tender on palpation. No progressive glandular enlargement was detected. A conspicuous feature was the absence of pain during the whole of his illness, with the exception of the last day or two.

At the post-mortem examination seven hours after death rigor mortis was well marked. There was no hypostatic lividity, but some post-mortem discolouration of the abdomen was present. Nutrition was impaired. Both eyes were much proptosed and chemotic. There were three firm nodules just below the skin of the left leg on the course of the veins. On removing the sternum large flat masses of greenish tissue were present under the periosteum; on section they consisted of greenish substance, the colour of which faded rapidly on exposure. The heart was large and pale. The thymus weighed one and a half ounces; on section it was hard and firm and of a greenish mottled appearance. The pericardium contained half an ounce of clear fluid. The heart was distended; there were several greenish patches below the epicardium measuring up to 1·5 centimetres in diameter; numerous subpericardial hæmorrhages were seen. The right chambers and valves were healthy; a large, soft, ante-mortem clot occupied most of the auricle. Some greenish nodules covered by healthy endothelium were distributed along the auriculo-ventricular ring. The muscle was pallid but healthy and measured 0·5 centimetre at the thickest part. The left chambers and valves were healthy; the muscle was 1·5 centimetres thick. The right lung weighed 9 ounces and was adherent firmly to the posterior and upper parietes; the middle, upper, and lower lobes were fused together. The surface was of a mottled greenish colour; on section it was of a mottled green and pinkish colour; round the bronchi there was a deposit of greenish tissue. The left lung weighed 16 ounces; it had a greyish mottled surface, the upper lobe being congested and œdematous. The lower lobe showed a small patch of broncho-pneumonia. The spleen weighed 70 ounces, was much enlarged, and pale in colour; a few greenish masses were present near the entrance of the large vessels; on section nothing was noticeable; the Malpighian bodies could not be seen; the general substance was soft. The kidneys were large; the capsule stripped easily and revealed a striking greenish mottled surface with numerous small hæmorrhages; on section the cortex was increased in size and the colour was like that of the surface. The left weighed 10 ounces and the right 8 ounces. The mucous membrane of the urinary bladder had a green appearance. The liver weighed 2 pounds 3 ounces. The gall-bladder was distended with dark greenish bile; it was markedly thickened and showed considerable green pigmentary change. The liver surface was pale and there was a small patch of greenish tissue below its serous coat. On section it presented a most striking appearance; triangular-shaped green deposits of considerable size, varying from 1·5 to 0·75 centimetres, surrounded the larger vessels. The pancreas showed marked

pigmentary change. The stomach was pale lemon yellow and showed numerous green patches below the mucosa. The lymphatic glands of the upper part of the duodenum and the stomach were green and hyperplastic; those of the large and small bowel and the axillary and inguinal glands were only hyperplastic. The thoracic duct and mediastinal glands were the seat of the most extensive growth; in places it extended over the bodies of the vertebræ, below the parietal pleura along the costal surfaces. The bone marrow was of normal colour. The orbits were distended with hard greenish tissue, replacing most of their softer contents, in parts showing a tendency to deep-seated caseation. The condition of the temporal fossa, especially on the right side, was a marked infiltration of the muscle by the green growth. Flat masses of green growth were also numerous below the cranial periosteum, between the dura mater and the bone, and along the superior longitudinal sinus. Small punctiform hæmorrhages were seen below the serous surface of the dura mater. The choroid plexus showed some pigmentary change but no definite growth could be detected. There was no thrombosis of the sinuses. All the green tissues after a few minutes' exposure to the air became paler in colour. Cultures taken from the spleen, the liver, and the growth were sterile.

Microscopical and Pathological Notes, by Dr. W. E. REYNOLDS.—Selected pieces of tissue were immediately hardened in alcohol and in a saturated solution of mercury perchloride in normal saline; paraffin sections were stained with hæmatoxylin and eosine and with Unna's alkaline methylene blue and eosine. Ferro-cyanide of potassium and ammonium sulphide were also used. The spleen shows greater changes than were evident macroscopically; the capsule and reticulum are not much thickened; the Malpighian bodies are prominent and plugged with lymphoid cells, but the chief change is the large number of endothelioid cells in the pulp; these project into the lumen of the sinuses; many of them are free; they are large in size and show much phagocytic activity, containing numerous red and white blood corpuscles; others, again, contain granules of golden-brown pigment, which is so marked in places as to obscure their cellular structure. Generally speaking, the nucleus is pushed to one side of the cell and is faintly staining. The lymphoid cells of the Malpighian bodies are large in size, with rounded or reniform vesicular nuclei having a very sharply defined nuclear membrane and irregularly and centrifugally arranged chromatic substance; the granulation is mostly fine in character. Neutrophilic, basophilic, a few polymorph neutrophilic, and coarsely granular eosinophilic cells are present. Brown pigment is very evident in the fixed and free endothelial cells, especially in those near or round the larger blood-vessels; it is mostly intra-cellular, rarely seen in the nuclei, and occasionally free. The larger vessels show a slight degree of hyaline change.

In a hyperplastic inguinal lymphatic gland much the same changes are present. The sinuses are plugged with lymphoid cells similar to those in the spleen, and the germinal centres are obscured. There is also a marked enlargement and proliferation of endothelial cells, which seem actively phagocytic to red and white blood corpuscles. Pigmentary changes analogous to those found in the spleen are present but not so marked. The green lymphoid tissue from the sternum shows the same appearances; it consists of masses of leucocytes of unfamiliar type imbedded in a delicate stroma; they are similar to those found elsewhere; coarsely granular eosinophile cells are, however, more numerous. In places the cells have lost their sharp outline, are packed close to each other, and their nuclei which stain intensely show signs of disintegration. The vessels are well-formed, and newly formed capillaries seem to have arisen in places; their endothelial cells are also enlarged, proliferated, and phagocytic. Pigmentary changes are very evident; in places the individual cells are almost choked with pigment. These "pigment cells" are also numerous in the surrounding connective and adipose tissues. The kidneys show large groups of lymphoid cells of the same nature replacing the renal tissue. There is slight cloudy swelling of the tubules and some pigmentary change is present. The liver shows marked changes. Glisson's capsule is well seen and infiltrated with similar lymphoid cells which are partially obscured by slight hyaline change; the adjacent liver cells are apparently normal, their nuclei, however, are vesicular and the cytoplasm contains numerous granules of refractile brown pigment. The hepatic vessels are similarly affected but there is less infiltration; pigmentation, however, is marked. In places the liver cells are compressed by lymphoid cells, are vacuolated, and contain numerous granules of pigment.

The relation of chloroma to other diseases is very obscure. It is often classed with melanotic sarcoma under the pigmented sarcomata; some pathologists regard it as a form of leukæmia, others as a condition *per se* showing characters in common with leukæmia, the infective granulomata, and sarcomata. In this particular case the history, clinical course, and distribution of the gross lesions suggest an infective process. The morbid histology shows a general dissemination of what looks like lymphoma; on closer examination, however, we find that the blood-vessels are well formed and the presence of newly formed capillaries indicates changes analogous to those found in subacute and chronic infections. In spite of this the characters of the cells and their nuclei are indistinguishable from those seen in sarcomata. In the spleen we find excessive hæmolysis and, what is more remarkable, phagocytosis of white blood cells by endothelioid cells; we also find that the endothelioid cells in the other hæmopoietic organs have taken on these functions. The explanation of this may be either that the endothelioid cells themselves are primarily affected and are stimulated to an abnormal extent, or that the first effects fall on the leucocytes and red blood corpuscles, which are being rapidly destroyed as noxious bodies or as waste products. The increase of xanthin bodies, &c., in the urine gives clinical evidence of a nuclear destruction. Pathologically we may derive some information from the distribution and nature of the pigment as to the exact meaning of these processes; we must, however, bear in mind that the quantity of the pigment is greater than would be accounted for by hæmolysis alone, a considerable portion of it having been excreted in some form or other during life; it is thus possible that it is derived in part from cellular and nuclear destruction. With this in view and with the idea that we were probably dealing with an infective process I endeavoured to ascertain the chemical nature of the pigment. Analyses as accurate as were possible by the aid of the microscope and minute quantities extracted from the tissues showed that the pigment was of the nature of a fatty acid combined with iron and that, moreover, it had very strong reducing powers. This explains the rapid change in colour of the pigmented tissue on exposure to air.

The physical and chemical properties of the pigment are as follows. With potassium ferro-cyanide a Prussian blue colouration was obtained but with some irregularity and difficulty. With ammonium sulphide and gentle heat a black reaction was observed; this was also marked in the nuclei of the hepatic and splenic cells and very evident in the growth. Picric acid in the presence of dilute caustic potash was reduced, giving a red colour. Sodium nitroprusside and dilute caustic potash gave a ruby red, but, unlike creatinine, on the addition of acetic acid no Prussian blue was observed. The pigment was insoluble in water, dilute mineral acids, alcohol, ether, and chloroform, slightly soluble in ammonia, and it was considerably altered in boiling water or alcohol, in which it was partially soluble. The facts that it unites with some metals to form salts, that it is a powerful reducing agent, and that it gives the above chemical and physical reactions suggest some substance analogous to creatinine and creatine. By special fixation or solution of the pigment and by special staining methods (which I shall publish subsequently) it is possible to demonstrate a bacillus which markedly resembles the bacillus mallei both morphologically and in staining affinities. Its distribution is precisely that of the pigment and is chiefly abundant in the nuclei of the cells immediately adjacent to the growth, in the nuclei of the cells forming the growth, and in the cytoplasm of the hepatic cells and of the endothelioid cells in every organ; in these last the bacilli appear to be exceedingly numerous; in places the cells are plugged with them, in others two or three are contained within vacuoles; some are free in the blood and in the intercellular spaces of the growth. The bacillus is variable in size, usually of the size of a tubercle bacillus but somewhat thicker; some are larger, slightly curved, and sometimes show clubbing of one or both extremities, and their protoplasm is often broken up into a number of deeper stained bands; others are smaller, of about the same thickness, and exhibit marked bipolar staining; they all possess rounded ends so as to give the shorter forms a spindle-shaped character. I was unable to detect any definite

spore formation or to stain them by Gram's method. It is stained faintly and with difficulty by basic stains and is easily decolourised with weak acids and less so with alcohol. Cultivation was unsuccessful both from the blood taken during life and from the blood and organs post mortem. Inoculation with blood taken during life was unsuccessful.

The association of the bacilli with the pigment is supported by their distribution (they are specially numerous in endothelioid and "pigment cells"), by the fact that potassium ferro-cyanide and ammonium sulphide show blue and black granules respectively, which in places are distinctly bacillary and in others bipolar in shape; we have further evidence in the fact that unless the pigment is either fixed or extracted they cannot be demonstrated. Their presence in large numbers in a hyperplastic gland excised very shortly after death and immediately hardened excludes the possibility of a post-mortem contamination. Against the hypothesis that they are pathogenic it can be urged that the defensive cells and their generating centres are diseased, have lost their function, and hence the infection may be accidental rather than causative; in answer we have the absence of any other organism in the tissues and the evidences that free and attached endothelioid cells are actively phagocytic to this bacillus. I admit that there is no normal round cell infiltration such as we find in acute infections, but the absence of leucocytes from the blood capable of amœboid movements should be remembered.

Taking a comparative view of acquired immunity we find that resistance to infective agents is mainly accomplished by phagocytosis and intracellular digestion, and also by other changes, such as the formation of agglutinins and antibodies from leucocytes and every cell in the body in general; an important part is also played by the "fixed phagocytes"—connective tissue and endothelial cells. Pathogenic bacteria are also known to protect themselves from antibacterial agents by the formation of impervious capsules or hypertrophy of their sheaths.[1] I may also cite the well-known fact that the tubercle bacillus in a giant cell secretes a fatty envelope which is protective against the ferments of the giant cell, and that the giant cell thus deprived of one means of attack deposits calcium salts, &c., around or into this envelope, in order to isolate the bacillus and its products. It is possible that pigmentation such as we find in this case is an analogous process. The immunising influence of fats and fatty substances is also of common occurrence.[2] These facts fit in with the chemical and physical characters of the pigment found in this case. On the little evidence we have at present on one case only we cannot decide whether this bacillus is pathogenic or merely living as an accidental saprophyte, but the facts are significant and I favour the former view. I regard this disease as one in which the first effects fall on the cellular elements of the blood or on their germinal centres, thus depriving the body of its chief defence, which now has to be performed by minor and less perfect means, such as phagocytosis by endothelioid cells and the formation and deposition of impervious substances. In the meantime further investigations into diseases showing leukæmic changes are necessary. It remains to account for the masses of lymphoid cells. I do not consider them to be wholly comparable to the infective granulomata but rather to be collections of already damaged leucocytes deposited in various places, such as lymph spaces around visceral vessels and subperiosteal spaces.

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[1] J. Bordet: Annales de l'Institut Pasteur, Paris, 1897, tome xi., p. 177, Planche V.

[2] E. Metchnikoff: Immunity in Infectious Diseases, Paris, 1901, p. 407.

DISEASES OF THE UPPER RESPIRATORY PASSAGES IN RELATION TO LIFE ASSURANCE.[1]

BY W. H. KELSON, M.D. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON AND PATHOLOGIST TO THE LONDON THROAT HOSPITAL, GREAT PORTLAND-STREET, W.

LOOKING through the list of questions to be answered in the medical reports of several life assurance companies taken at random, one is struck by the absence or extreme paucity of reference to the upper respiratory tract, and one is tempted to ask the question,—Are there no serious troubles arising in these parts affecting longevity? or are there no signs nor symptoms to be looked for here which might guide us to the discovery of serious disease in other parts? True, there are difficulties obviously in the way of the examination of these regions, more especially the nose, post-nasal space, and larynx, and I am not going to suggest for a moment that any routine examination of these parts should be made in all cases, but, on the other hand, if you will bear with me for a little while, I will endeavour to show that perhaps more complaints than are generally supposed may have their origin here, and that sometimes the very earliest signs of very grave organic disease appear here, and, if recognised, put us at once on our guard in the same way as that in which one is put on the *qui vive* by unexpectedly coming across albumin in the urine. Also, as regards the nose, the physiology of this organ has of recent years had to be rewritten, and its functions have been found to be more numerous and important than was formerly supposed and consequently their abrogation by disease more serious.

Let us begin with the larynx, and ask what symptoms are there which should make a laryngoscopical examination of a candidate for life assurance desirable and what physical signs may be detected on so doing, for though the value of any laryngoscopical examination depends largely on the skill and experience of the examiner, yet it may be well to recapitulate briefly some of the principal points to be observed in relation to their value as indicating serious mischief. Speaking generally, we may say that the question of this examination is most likely to arise in young adults of poor physique and any adult about or just beyond middle life. Now the functions of the larynx are respiratory and phonatory, though the existence of the larynx is by no means a necessity for audible intelligible speech or respiration; therefore, the symptoms will be some change in, or interference with, phonation or respiration; and it having been decided to make a laryngoscopical examination, what abnormal appearances may be present to indicate to us the presence of disease which will have a bearing on the prospects of the candidate as regards longevity?

First of all, there may be loss of movement of the vocal cords; that is to say, the outward motion of the cords on getting the patient to take a deep breath, or the inward movement on getting him to phonate, is defective. Now this loss will be due to one of two main causes: either paralysis or mechanical interference. Let us first take paralysis. This may sometimes be due to a toxin, such as in diphtheria or influenza, when it has no special significance or may occur as part of a general poisoning such as from lead (two cases of cord paralysis from this cause I have seen) and from arsenic, as reported by Seligmüller and Heymann, but more commonly the paralysis is due to either (*a*) pressure on the nerve or (*b*) degeneration of it or its centres. Let us take pressure first. Now the laryngeal muscles, as is common knowledge, are supplied by the recurrent laryngeal nerve, a branch of the vagus, with the sole exception of the crico-thyroid, supplied by the superior laryngeal. As to the vexed question whether the ultimate origin of the fibres be the vagus or the spinal accessory, we need not, I think, trouble ourselves this evening, and I may say at once that paralysis from pressure on the vagus above the point of origin of the recurrent laryngeal is very rare but the recurrent itself in the course of development having been caught, as it were, by the aortic arch on the left side and subclavian artery (the representative of the fourth right fœtal arch) on the right, and looping round these structures, is peculiarly exposed to pressure here—e.g., an apical pleurisy or a pericarditis may

[1] A paper read before the Life Assurance Medical Officers' Association on March 6th, 1907.

catch it and paralyse it and so may mediastinal growths or enlarged glands, but more important than these, because very fatal and often latent, is aneurysm of the aortic arch.

Referring to Dr. F. de Havilland Hall's well-known work on "The Medical Examination for Life Assurance" he says: "The records of life assurance offices show that thoracic aneurysms are frequently overlooked. In many instances this omission is almost unavoidable, as even when a patient is anxious to give all the information he can the physical signs are often too ill-defined to enable a diagnosis to be arrived at." This I heartily endorse, at the same time suggesting that if these cases had had their larynges examined perhaps danger signals might have been detected in some of them. In these cases of aortic aneurysm the left nerve, as might be expected, is the one generally affected, but sometimes both are involved; and the cause of this has led to much discussion, some explaining it on the ground of the aneurysmal dilatation having extended into the right subclavian and involving the right recurrent as well as the left; but it has also been shown that pressure on one vagus may, by acting reflexly through the afferent fibres, produce paralysis of motor fibres on both sides.

The onset of paralysis is insidious and peculiar, and with reference to it I must quote the work of Sir Felix Semon, whose investigations in this, as in other matters on laryngology, are of marked and permanent value. Semon's law says: "In organic progressive diseases of the roots and trunks of the spinal accessory, vagus, and recurrent nerves the dilator fibres are affected earlier than the constrictor fibres, or may be even attacked exclusively," and the law holds good in this case. Now the dilator muscle of the larynx or abductor of the cords is the crico-arytenoideus posticus, and it is better to speak of posticus paralysis rather than abductor, because the terms "abductor" and "adductor" are so much alike that confusion is apt to arise. Therefore, if one sees the larynx early it is noticed that the posticus or dilator only is paralysed and the vocal cord lies motionless in the middle line; in this stage, however, when one cord only is affected, there may be very little, if any, alteration in the breathing or phonation, the outward movement of the cord on the unaffected side during inspiration giving sufficient room. Should, however, both postici be paralysed, both cords lying near the middle line, there is no room to breathe and the danger of suffocation is great. Though neither voice nor breathing may give much warning in this early stage of paralysis of one cord, yet in some cases attacks of difficult breathing and alteration of voice due to spasm of the muscles of the cords occur, the cause being irritation of the nerves. If, however, the condition has passed on to complete paralysis of one cord the voice is weak and more or less hoarse and sometimes with a tendency to falsetto when the patient attempts to speak loudly, but there is no dyspnœa; on examining laryngoscopically it will be found that the paralysed cord lies motionless in a position very near to that which it assumes in the dead body and which is known as the cadaveric position. On making the patient phonate it may be seen that the healthy cord comes right across over the middle line and approximates itself to the paralysed one, so helping its weak partner to produce a voice.

Although complete left-sided paralysis is the commonest form observed, yet one may get various combinations, such as complete paralysis on one side and partial on the other, the difficulties being phonatory when there is complete paralysis and respiratory when the dilators only are affected. It has been pointed out that the tactile vocal fremitus is different on the two sides of the larynx when one cord only is paralysed, but I do not think much weight can be attached to this. Movement, too, of course, may be communicated to the trachea and larynx by the tugging of the aneurysm, especially when the patient's head is held backwards. Also, seeing that the aorta lies close to the anterior surface of the trachea just above its bifurcation and then curves backwards and to the left over the left bronchus, one may find stenosis and stridulous breathing from pressure here, and if the glottis can be well dilated one may sometimes see the pulsation with the laryngoscope in the lower part of the trachea, especially on its left anterior wall.

Leaving now the aorta and aneurysm, let us turn our attention to another point at which the recurrent laryngeal nerves are often pressed upon with resulting paralysis of vocal cords. These nerves, you will remember, passing upwards and backwards behind the subclavian on the right side and the aorta on the left, reach the groove between the trachea and œsophagus, and continuing their course towards the larynx reach the lower border of the cricoid cartilage where they pass beneath the inferior constrictor muscles of the pharynx, and should they be caught in this region a serious significance must often be attached thereto. Let me illustrate what I mean by a case. In 1897 a man brought his wife, aged 40 years, to me, stating that he was thinking of insuring her life, but wished me just to examine her to see if her various organs were in a sound condition. In answer to my inquiries as to her state of health she stated that she enjoyed very good health indeed, but had lately had a slight hoarseness and a little pain in the right ear which she considered to be due to a cold. She had no difficulty in swallowing, but a curious point was that she had recently nursed a sister who had, she stated, died from cancer of the tongue. On making a laryngoscopical examination I found that she had complete paralysis of the right vocal cord, and at the base of the arytenoid on this side there seemed to be some fulness on its œsophageal aspect, but nothing could be felt externally, nor was there pain or tenderness here, but I could not help feeling highly suspicious as to the nature of this swelling, thinking that one had in all probability to deal with a malignant growth of the œsophagus in an early stage. This opinion was confirmed by Dr. H. Lambert Lack, who saw her at my request shortly afterwards. In March, 1899 (about two years later), I saw her again when almost moribund and a few days afterwards was allowed to make a post-mortem examination, when I found a mass of growth involving the recurrent laryngeal nerve on the right side, and this was shown by microscopical examination to be an epithelioma.

Now it would not have been worth while referring to this case but for the fact that this condition is by no means a rare one, and it is a common thing—at any rate, at a throat hospital—to see a patient with commencing malignant disease of the upper part of the œsophagus with very little indeed to show for it except paralysis of a vocal cord. It also occurs in comparatively young persons and I have seen it myself in a woman aged 28 years. In some goitres also paralysis of the vocal cords may be produced by pressure on the recurrent nerves, but with them external swelling is generally obvious and the examiner is not likely to be taken off his guard.

As regards nerve degenerations, we may find paralysis of the vocal cords in bulbar paralysis, disseminated sclerosis, and syringomyelia, amongst other diseases, but being rarely if ever the earliest symptom of these diseases it has but little importance here from a life assurance point of view, but in tabes dorsalis laryngeal paralysis may be the first sign, and the typical paralysis of tabes is the before-mentioned paralysis of the crico-arytenoideus posticus or abductor of the cord. This may occur on one side or both, but various forms of paralysis may be met with, and the condition may be so marked as to produce a very noticeable alteration in the voice or respiration, or so slight in effect as to be hardly observable, and the paralysis also may develop very gradually. Besides, irregular or ataxic movements of the cords may occur on the patient attempting to take a deep inspiration or use the voice, which latter may be interrupted and the speech jerky; or there may be the history of laryngeal crises, in which the patient generally feels an irritation or tickling in the throat and gets a violent convulsive cough with noisy respiration and dyspnœa. The attack is often followed by paralysis of the cords, so that if owing to any such history or to hoarseness or dyspnœa we examine the larynx and find paralysis locomotor ataxia is one of the diseases to be thought of and confirmatory evidence should be sought for in the eyes, knee-jerks, &c. In general paralysis of the insane—a very fatal disease—the patient very often exhibits more or less marked posticus paralysis, and a case in which laryngeal spasm was the precursor of the disease has been recorded.

Let us now leave paralysis of the recurrent laryngeal nerve and pass on to the conditions in which phonation and respiration are interfered with by mechanical causes in the larynx, first, however, remarking that ankylosis of the crico-arytenoid joints may produce appearances and loss of movement very similar to those due to paralysis, but sometimes swelling can be noted round the joint in ankylosis and there is more rigidity of the parts. As regards the intra-laryngeal mechanical causes of loss of voice and interference with breathing, they are many, but from a life assurance point of view three only may be regarded as sufficiently common and important to dwell on—viz., (1) malignant

disease; (2) tuberculous; and (3) syphilitic lesions. Taking first malignant disease, this affection loses some of its significance owing to the large proportion of cases which occur at over 50 years of age, but a considerable number are met with below 50, though of late years operative treatment—for such as are dealt with in the early stages—has rendered the prognosis much more hopeful. Fortunately hoarseness is commonly a very early symptom, a usual situation for the growth being one of the true vocal cords; therefore, suspicion being aroused, a laryngoscopical examination should be made, and in proportion as any growth present shows a tendency to infiltrate the parts and interfere with movement by its infiltration so the probability of its being of a serious nature is increased. Removal of a portion of the growth and its examination by a skilled pathologist is in doubtful cases the only way in which the innocence of a growth can be proved, and unfortunately here the objection is constantly raised that the piece removed may not have been deep enough to give a fair sample of the growth itself, and to get a sufficiently large specimen for a decisive opinion is often well-nigh impossible without doing serious damage to the parts. In the early stages of intra-laryngeal malignant disease glandular enlargement is improbable.

Laryngeal tuberculosis may be either primary or secondary, though the primary form is undoubtedly rare and opportunities of proving by post-mortem examination that it may exist are rarer still; yet, on the other hand, there are many cases in which the lung signs are very slight and others in which lung indications seem absent, but subsequent history shows that in all probability the lung affection preceded the laryngeal disease. These cases have considerable importance from a life assurance point of view, as they occur in young adults and more often in men than women, and also because the laryngeal symptoms may draw attention to the presence of pulmonary tuberculosis which possibly might be otherwise overlooked. In these cases there is commonly only hoarseness at first with perhaps tickling or pricking in the throat and irritable cough, and sometimes the history of a previous attack of laryngeal catarrh. On examination the first thing as a rule that strikes one is the peculiar pallor of the larynx, and the commonest position for the tuberculous deposit is the inter-arytenoid space where it may either form one or more slight swellings or a distinct tumour jutting out, so as to prevent the vocal cords coming into opposition and so interfering with voice production. The vocal cords and epiglottis are also commonly affected, but one of the points in differential diagnosis between an ordinary catarrh and these more serious troubles is the less general involvement of the parts in these latter. Thus one cord being swollen and not the other is a suspicious sign; of course, finding tubercle bacilli would clinch the diagnosis, but at this stage the sputa may be very scanty and contain none.

With regard to syphilis, in the secondary stage of this disease hoarseness is common, and I have known this lead to the discovery of the presence of this affection. In the tertiary stage it frequently affects the larynx, and then, as in other parts, simulates malignant and tuberculous disease and may attack any part. Speaking generally, it shows less tendency to warty growth and insidious infiltration than malignant disease and more dusky redness than tubercle. Age, sex, and past history help sometimes, but are apt to prove deceptive. The swelling is often marked and has the special danger here of interfering with respiration at first and also later sometimes by troublesome fibroid contraction.

Let us now pass on to the nose and naso-pharynx. Referring to books on physiology of 20 years ago we find, although referred to in a vague sort of way as affording the natural passage for respiration, yet the nose was accredited with very little beyond that of being the organ for the sense of smell, but owing to the work of Bloch, MacDonald, and others it has been shown to have certain duties in addition, and, if anything, more important—that is, more closely connected with health than olfactory ones. The inhalation of air at an improper temperature, or of too great a degree of dryness, or full of impurities is detrimental to the lower air passages and is apt to be a source of disease, but by scientific experiment it has been shown that however cold or hot within a very considerable range (— 7° C. to 45° C., MacDonald) external air may be, after passing through the normal nose it will be reduced to approximately the temperature of the blood, and at the same time, if dry, it will be saturated with moisture. Impurities are also removed; in fact, some have attributed a bactericidal action to the nasal mucus. These facts being allowed, there can be no doubt that all blockages here, whether due to adenoids, polypi, cartilaginous, bony, or polypoid growths, or consisting of hypertrophied mucous membrane, &c., by interfering with the proper air-way through the nose, have a very deleterious effect on the respiratory organs below and indirectly damage the general health and, at any rate, predispose to bronchitis, pneumonia, and pulmonary phthisis, which figure so largely in the tables of mortality of insurance offices. Besides, associated with the obstructed nose we get mal-development of the jaws and with them the teeth, so that mastication is interfered with and digestive troubles arise; also associated with congestion and obstructed drainage of mucus from the nose and its accessory cavities are middle-ear catarrh and suppuration. So marked is this in the case of adenoids that the suppuration often ceases like magic when the growths are removed. Besides these, there are other conditions here which bear upon the question of longevity. Let us just take the signs of epistaxis. This occurs commonly enough in children, where it has no special interest for us, but in young adults one must remember the possibility of fibrous polypus and sarcoma, hæmophilia, and the oncoming of typhoid fever and the various forms of anæmia, and it may be an early symptom of splenic leucæmia—and one must not forget that the lungs are often blamed for hæmorrhage, the seat of which is really the nose, the mouth, the pharynx, or the larynx; especially is this the case in instances in which spitting of blood is reported after the night's sleep, that is after the recumbent position has been assumed for some hours. As age advances, however, the significance of epistaxis greatly increases and hospital records show that in cases over middle life in which the hæmorrhage has been so severe as to necessitate them becoming in-patients a very large proportion are suffering from visceral disease of a serious character, the most common being cirrhosis of the liver and contracted granular kidney with urine of low specific gravity and a trace of albumin.

Another trouble which has some importance besides a discharge of blood from the nose is a purulent discharge, and this gathers in weight if associated with headache or pain round the orbit, for suppurative disease of the accessory sinuses and ethmoidal cells is common, and from time to time one sees recorded fatal cases arising from these troubles, and instances of this fatal result have been collected by Grünwald and others; but there is reason to believe that owing to the difficulties present in the way of accurate diagnosis this cause of intracranial disease has been overlooked in a good many cases. Considering the very large percentage of deaths claimed by tuberculous disease, it may be well to note how tubercle affects the nose, and it is very significant how close the nasal cavities are to the meninges, and also their being on the direct highway to the lungs, since tuberculous meningitis and pulmonary tuberculosis are so common. A large number of cases of tubercle in the nose have now been collected, and it may be either primary or secondary, the former being the rarer form and taking generally a polypoid shape, whereas infiltration with ulceration is that usual in the secondary variety. Tubercle bacilli have been found over and over again in adenoids and tonsils, though the latter showed no sign thereof externally except enlargement and frequent association with tuberculous lymphatic glands; probably moderate enlargement, apart from this, need not affect a policy.

Seeing that the back of the mouth, the tongue, and the soft palate, together with the pharynx, are used by both the respiratory and alimentary functions as common ground it would seem that consideration of affections of the upper respiratory tract should include these parts though they are often omitted. As regards the tongue, it should always be examined and no question of inaccessibility can be made here, one great reason being the valuable indications it may give of the candidate's past life, history and habits, such as a tendency to chronic alcoholism, as shown by the furred tongue inclined to tremor with a more or less characteristic odour of the breath. In chronic superficial glossitis, also, we have a complaint both common and important with its various forms or stages, as leucoma, psoriasis of the tongue, and the red glazed smooth form. Its exact etiology may be somewhat obscure, but syphilis, excess in smoking, and alcohol (especially spirits), stand out pre-eminently as contributors to its development, and gout and rheumatism are also believed by Mr. H. T. Butlin to be factors. As regards leucoma and cancer this high authority

says: "Leucoma is undoubtedly a very strong predisposing cause of cancer"; also, "It may almost be thought that the possibility that carcinoma may be developed in connexion with leucoma has been exaggerated, so much has been said and written of it lately, but we believe that the frequency of the event, so far from having been exaggerated, has been underrated, and that careful records will show a much larger proportion of carcinomas, which have been preceded by leucoma." And it may be said at once that if in these cases of leucoma any ulceration with induration be present we may be pretty certain that the carcinomatous stage has actually been reached. In fact, nowhere is a pre-cancerous stage shown more clearly than in the tongue, and the change going on from leucoma to cancer may be sometimes seen in different parts of the organ at the same time. Leucoma is all the more important because the subjective symptoms are apt to be so very trivial and the pain slight, so that the patient may be unaware of its existence till it is pointed out by the examiner. Ulcers of the tongue also are common and must always be looked on with suspicion, for they are not unfrequently the only indication present of active syphilitic disease, and when this is not present gouty dyspepsia or local irritation will be the most probable cause, but in all cases it is desirable to make quite certain what course the ulcer is going to run before giving a definite opinion. Tuberculous ulceration here or in the pharynx is almost always accompanied by well-marked pulmonary tuberculosis.

When examining the tongue a view can easily be obtained of the palate and one sometimes sees evidence of syphilis here in those apparently unaware of its presence. Also, by getting the candidate to protrude his tongue and say, "Ah!" we can eliminate the presence of any loss of movement of tongue or palate, such as, combined with laryngeal paralysis, we find in diseases affecting the bulbar nuclei or the surface of the medulla.

In concluding these few and I fear rather disconnected remarks I would submit for your consideration the question as to whether such queries as, "Do you ever suffer from hoarseness or difficult breathing?" "Can you breathe freely through your nose?" "Have you any mattery discharge from it?" and, "Is your tongue sore?"—might not each or any of them be put to candidates. Also, I should like to get the opinions of those present as to in what circumstances the medical examiner should advise his office to postpone the life until a further examination and conclusive opinion can be obtained. Not so very long ago a running ear was not regarded as having any very great import, but facts have shown this to be a matter requiring serious attention from the view of life assurance, and as our knowledge of rhinology and laryngology increases a pus-discharging nose may be found to have perchance an equal or even greater bearing on a candidate's prospects of longevity than a pus-discharging ear.

Cavendish-place, W.

SOME CLINICAL OBSERVATIONS ON MUCO-MEMBRANOUS COLITIS.

BY J. LIDDELL, M.D. EDIN.,
PHYSICIAN TO THE HARROGATE ROYAL BATH HOSPITAL.

DURING the last few years the attention of the profession has been increasingly drawn to the affection called muco-membranous colitis. It is an extremely common malady but one that is liable to be overlooked. Its importance is considerable not only on account of the local symptoms but more because of the secondary effects due to an auto-intoxication. It is the toxic poisoning arising from the condition which gives the real importance to the affection, since this toxin seriously impairs the health and gravely interferes with the well-being and usefulness of a large number of people. The principal objects of this communication are, first, to indicate the clinical manifestations useful in helping us to recognise the malady when there is no history of the evacuation of mucus from the bowel; and secondly, to describe the method of colon irrigation which has proved so beneficial in the treatment of such cases.

Muco-membranous entero-colitis is a chronic malady affecting the colon but occasionally implicating the lower part of the small intestine. The symptoms may run a continuous course or there may be intermissions followed by exacerbations. In respect to the local manifestations of the disease I shall merely indicate these, as it is unnecessary for me to dwell upon them since they have been well described by various English and continental observers. I shall, however, describe more fully the secondary features, not only on account of their importance to the patient but because they are helpful in enabling us to recognise the disease in obscure cases.

Many of the patients who are classified as neurotics or neurasthenics are sufferers from colitis and there is a causal connexion between their neuroses and the colitis. Indeed, so much is this a fact that most of the obscure cases of colitis can be recognised by the nerve symptoms accompanying the condition, especially when they occur in conjunction with other manifestations which I shall mention. Without further preliminary I shall enumerate the symptoms which usually occur in typical cases of colitis.

SYMPTOMS.

The patients complain of malaise; they have occasionally depression of spirits and irritability of temper; often there is sleeplessness or disturbed sleep, loss of memory, impairment of mental and bodily faculties; they are easily moved to tears, and they suffer from cold hands and feet. Though these symptoms may not be peculiar to muco-colitis, yet a surprisingly large number who complain of them are subjects of that affection. Should this group of symptoms or most of them occur in a patient then we ought to inquire into the state of the intestine. The cardinal symptoms referable to the abdomen are constipation, pain, and the evacuation of mucus. The constipation generally is of an obstinate and intractable character and occurs in the majority of cases. Sometimes it alternates with diarrhœa, but this is often spurious. A few cases, however, have habitual diarrhœa or looseness of the bowels. There is usually pain or discomfort in the abdomen and this is often referred to the cæcum, where it may be mistaken for appendicitis. The next most frequent site of pain is the sigmoid flexure, especially in those cases where spasm occurs in the descending colon. Here, as in the cæcum, we must be careful to distinguish it from ovarian pain. Pain may also occur in the hepatic and splenic flexures, also in the neighbourhood of the umbilicus. In respect to the evacuation of mucus many colitis patients are not aware that they are passing it from the bowels, either because the quantity is small or more often because it is evacuated in a state unrecognisable by the ordinary observer. If there is no history of the evacuation of mucus and we proceed to examine the patients there are certain features which aid us in detecting these obscure cases of colitis.

The first thing to be noticed in cases of long duration is that the skin is toneless and has a dull yellowish or dirty-brown tint. There are sometimes numerous pigmented patches in the skin, which may be elevated or not. The face wrinkles early and in many cases there is a curve round the angles of the mouth. Many patients are thin through atrophy of the muscles and loss of fat. The circulation is weak and the arterial tension is low. The tongue is often very large and beefy-looking, indented at the edges by the teeth, and in cases of long duration is deeply *fissured* at the edges and on the dorsum. This is characteristic of the condition. When the tongue is coated there is usually gastric catarrh or dilatation of the stomach. The lips are often cracked and in severe cases the buccal mucous membrane is affected with tiny ulcers. On examining the abdominal walls we usually find one of two conditions. Either the walls are thin and retracted, due to loss of fat and atrophy of the muscles; or they are loose and pendulous, producing the so-called "batrachian belly." By palpation and percussion information is obtained as to the state of the colon. The ascending and transverse portions are distended, whilst the descending is often contracted, especially in the neighbourhood of the sigmoid flexure. This contraction feels like a piece of indiarubber tubing. With deep pressure gurgling or crepitation can be felt chiefly in the cæcum. Auscultation often elicits splashing in the transverse colon when the abdomen is given a slight shake. The kidneys are frequently moveable, the right especially so. The fæces are sometimes pale in colour or pale portions may be seen with ordinary motions. Frequently the motions are attenuated, being of about the size of the little finger; this happens when there is a spasm in the descending colon. Again, they may vary considerably in appearance and consistence, sometimes occurring in small rounded masses or shattered and irregular. Scybala are

frequent and are often imbedded in what seems an ordinary motion. The mucus which is voided varies in appearance and consistence. It is either glairy or membranous. It may resemble raw white of egg, or it may occur as strings or shreds, or as a whitish coating on the fæces. Frequently it is seen in cylindrical masses, which are casts of the intestine—in other words, false membranes. They vary from an inch or two to two or three feet in length. But it is to be borne in mind that the mucus is frequently evacuated unrecognisable as such by an ordinary examination. For instance, a mass of it may be so coated with the fæces as to resemble an ordinary motion or it may be so incorporated with the motion as to escape detection by simple inspection. However, when it does occur in this way the motion is always sticky and adheres to the utensil. Often undigested fat is found in the fæces.

In a small percentage intestinal sand has been observed. Some of my patients have passed it in very large quantities. Sometimes the urine is changed in character. It may be high coloured or have a greenish opalescent appearance, with a strong, well-marked odour due to an increase of aromatic substances. Again, it may be light coloured and passed in large quantities. These two conditions may alternate in the same patient. Sugar is occasionally found in the urine and disappears on an amelioration of the condition of the colon. Cystitis and even pyelitis may occur as a result of colitis with bacillus coli in the urine. I have observed this in several patients and the cystitis and pyelitis disappeared with the cure of the colitis.

One peculiarity which strikes us in connexion with the secondary symptoms is their greater intensity in the membranous form of mucus secretion. The explanation is simple. It is because the glairy mucus is voided comparatively soon after it is secreted, whereas the membranous is retained sometimes for many weeks. Now during its retention it adheres closely to the walls of the intestine and entangles in its meshes the residuum of food. Often one recognises in the mucus the remains of some particular article of diet eaten two or more weeks previously, proving a prolonged retention of the mucus in the bowel. The same may be found in scybala which find an anchorage in the sacculations so frequently present in the colon in colitis. Thus there take place a retention and accumulation of putrescible matter. In the process of putrefaction which takes place products are formed which affect the colon locally and the system generally. The products of putrefaction irritate still more the already irritable mucous membrane and tend to increase the catarrh. The gases which are generated keep up the distension in the ascending and transverse portions of the colon, whilst the effect on the descending colon is generally to throw it into a more or less constant state of spasm. Both these conditions—namely, of distension and spasm—interfere with peristalsis of the bowel and cause constipation.

In connexion with the secondary symptoms apparently the only hypothesis which adequately explains them is the following. During the process of putrefaction which takes place in the colon toxins are produced. These toxins are absorbed into the system, causing an autotoxis, of which the secondary phenomena are the consequence. This view of their causation is supported by the results of treatment. The symptoms depend upon the structures involved and the amount, intensity, and nature of the toxin. The following facts illustrate this statement. There is absorption of fat, both of the subcutaneous and that usually found elsewhere. For instance, the fat in which the kidney is imbedded is often absorbed. When this happens then this organ, having lost its support, is readily displaced. In every case of freely moveable kidney which has come under my observation I have found colitis in association. Another manifestation of autotoxis is muscle poisoning, both the skeletal and involuntary muscles being involved. Hence the patient is easily fatigued by muscular exertion and there is depression of the cardiac muscle, with weakness of the circulation, causing among other symptoms cold hands and feet. Moreover, there is interference with the biliary and pancreatic functions. As a consequence of this there are oligocholia, occasionally glycosuria, and the presence of fat in the dejecta. Then the neuroses, which are some of the most troublesome features of the affection, are due to, or are influenced by, this cause. Lastly, the dull unhealthy appearance of the skin is caused by these products of putrefaction.

ETIOLOGY.

The importance of the etiology of this complaint is too evident to be dwelt upon, but the subject is too extensive to be considered fully in this paper. I shall merely state some of the causes. First, as to the predisposing causes. It has been noted by various observers that many of the patients belong to a neuro-arthritic stock. In some the arthritic diathesis is well marked, in others the neurotic tendency is more apparent. It occurs at all ages, but more often between adolescence and late middle age, though children and old people are not exempt. Women are more prone to it than men. The malady is much more frequently met with among the well-to-do classes and those who live in towns than among the artisan or labouring classes or those who live in the country. Rich diet and large quantities of animal food are powerful agents in its causation, especially amongst those who live a strenuous life in large cities. Secondly, among the exciting causes occur debilitating illnesses, severe nerve or mental strain, shock, chill, also disturbances of the upper part of the digestive tract. Combe,[1] in his excellent book on the treatment of colitis, contends that the determining cause is a bacillary infection of the mucous membrane and says that the disease is capable of being transmitted from one patient to another. He advances a strong and carefully reasoned argument in favour of his view. That bacteria play a part in the disease is morally certain, but with all deference to the opinion of this able observer I submit it is still an open question that they are the cause of it.

PROGNOSIS.

Muco-membranous colitis is essentially a chronic ailment. It is seldom fatal unless grave complications arise. Some suffer from it in a slight degree and have an exacerbation from time to time. This is especially apt to take place in the spring but it may occur after injudicious feeding, such as a series of heavy dinners. These cases by appropriate treatment soon get well. The more severe cases usually require two courses of colon irrigation with careful management after; while the very severe cases with pronounced nerve symptoms may take several years of careful management with an annual course of colon irrigation before recovery takes place. In children colitis interferes with growth and development. With them recovery takes place if they are carefully dieted, warmly clothed, and placed in healthy surroundings.

TREATMENT.

Those who have much experience of these cases know how difficult the management of them is, great patience and perseverence in treatment being required by both medical attendant and patient. At the outset of treatment we naturally eliminate any known cause, so far as this lies in our power, but sometimes we find the exciting cause is no longer in operation. Next we must adopt the best means of overcoming the stasis of the bowel and procure a regular and complete evacuation of its contents. The necessity of this is apparent, since it is the retention of mucous secretion, fæces, products of putrefaction, and microbes which causes the constitutional disturbances and increases the local irritation. Moreover, requisite means have to be taken to improve the mucous membrane and the muscular coats of the intestine. For evacuation of the bowel aperients prove unsatisfactory in colitis. They never effectually clear the bowel without producing considerable local and general disturbance, and really aggravate the condition. As they lose their power in course of time the patient requires to take larger quantities and take them more frequently, thus making the local condition increasingly worse. Probably the best means of evacuating the bowel and at the same time lessening its irritation is by colon irrigation. When this is properly administered it clears the bowel more effectually than aperients do, and instead of having a pernicious effect its action is most beneficial. A somewhat extensive experience has taught me the value of this method and that it is by far the best way to commence the treatment of colitis. It has to be carried out with very great care and under certain restrictions, as it may do harm instead of good. But properly administered its value is undoubted. The fluid used must be of a bland unirritating nature. It must also be given under a low and equable pressure or painful spasm will occur and irritation of the colon. The temperature and the quantity of the fluid are also matters of importance.

A brief description of the mode of procedure employed at Harrogate will illustrate these points. The patient reclines upon a couch, at the foot of which is placed

[1] Traitement de l'Entérite Muco-membraneuse, par le Dr. A. Combe, 1905.

the apparatus for washing out the colon. This consists of a double cylinder, with a float in the lower cylinder, which regulates the escape of water from the upper, so that the same pressure is maintained throughout. The cylinder glides on two graduated uprights which mark the height and pressure and is moved to the height prescribed. There are a thermometer attached to the cylinder and a gauge to register the quantity of water, both sufficiently large for the patients to observe for themselves whilst lying on the couch. One of the sulphur waters is used for irrigation. The quantity prescribed may be from 10 to 40 or more ounces for each douche and is usually repeated. The temperature varies from 96° up to 104° F. or more, depending on the condition of the bowel. A long tube is passed per rectum into the sigmoid flexure and the sulphur water gradually passes through it into the colon. This is retained several minutes by the patient and is then ejected into a flat-bottomed receptacle. The douche is always given by a skilled attendant, who examines the ejecta and reports to the medical attendant. Immediately after the internal douching the patient goes into an adjoining room and steps into a warm sulphur bath. Whilst reclining in this a hot douche is directed through the water to the abdominal wall. It is delivered through a large nozzle with numerous fine perforations and moved slowly over the site of the colon. There are several therapeutic actions produced by this internal and external treatment besides the mechanical one of cleaning out the intestine. The internal douche acts as a warm bath upon the intestine, the heat of this soothing it and the neighbouring organs. Then the sulphur water brought in contact with the mucous membrane produces its well-known action of diminishing catarrh and restoring the mucosa to a healthy condition. Again, Sir William Ramsay has found that the stronger of the sulphur waters used is radio-active, and doubtless this property is beneficial, producing a sedative effect upon the bowel and the body generally. Another important action of the internal douche is free diuresis. This arises partly from the kidney being stimulated by the hot internal douche, though chiefly from the absorption from the bowel of some of the sulphur water, part of which is retained and subsequently secreted. This flushes out the liver, kidneys, and tissues, and carries away some of the toxins already absorbed.

When we come to examine the effects of the external treatment we find the warm sulphur bath soothes the nervous system and induces a sense of comfort in the patient. It determines an increased flow of blood to the skin, stimulating its glands and improving its nutrition. This in turn has a healthy influence upon the colon as there is undoubtedly a close relationship between the skin and the intestine, a state frequently demonstrated in colitis. The external douche applied to the abdominal walls has an extremely soothing effect upon the colon, relieving pain and spasm when it exists. Further, the impact of the tiny jets of the douche stimulates the intestine and promotes muscular contractility in the distended portions. It is an interesting fact that the relief of spasm in one part of the intestine and increase of contractility in another will take place at the same time, probably from the irritation of the intestine being allayed. After four or five weeks of such treatment a marked amelioration is produced in the patient's condition. The catarrh is lessened, pain and spasm are alleviated, and constipation is relieved.

Coming to the general symptoms the first thing noticed is the improvement in the appearance of the skin. In a few days it becomes clearer and brighter. Next, if there is glycosuria it usually quickly disappears, as does also the stool pallor. Soon the patient feels better and becomes brighter and happier. The neuroses, which are generally the most troublesome features in severe cases, improve slowly, though in the milder forms of the affection they are soon ameliorated. One remarkable circumstance is the effect of treatment on a loose kidney. After some months of effective treatment it becomes much less moveable, and in some cases when recovery from colitis has taken place the kidney becomes practically fixed. In severe cases of colitis one course of colon irrigation is not sufficient. It must be repeated once or oftener after an interval, depending on the state of the patient at the end of the course and subsequently to it.

During the last three or four years this treatment has been employed at Harrogate in several hundred cases of colitis. The excellent results which have been achieved have exceeded expectations. The results prove that the method is both rational and successful and that it is destined to become an essential part in the treatment of many cases. The same kind of treatment has been carried out at Plombières and Châtel-Guyon for several years.

Careful dieting during and after the course of douching is imperative. Foods which are easily digested and leaving only a small and unirritating residuum are best. In my experience the diet advocated by von Noorden proves unsuitable. Further, the patient should be instructed to eat only a small amount of animal food, since it is a fruitful source of putrefactive material. They require to be warmly clothed and be careful to avoid chills, which are apt to increase the catarrh of the colon. Warm bright sunshine is a valuable aid to treatment and sometimes is indispensable. Moderate exercise should be regularly taken in the fresh air, that of an upland or mountainous character being especially beneficial. Moderation is essential in food, drink, exercise, and pursuits. In short, the scriptural injunction: "Be ye moderate in all things," applies more to patients affected with colitis than perhaps to any others.

Harrogate.

A CASE OF CONFLUENT HÆMORRHAGIC ERUPTION IN VARICELLA.

BY CHARLES R. PORTER, M.R.C.S. ENG., L.R.C.P. LOND.

THE fact that varicella is usually such a mild disease no doubt accounts for the scarcity of literature found relating to its complications. Medical advice is often not sought at all, and there is no doubt that many cases occur which are not even recognised by parents of children who have the disease. Among the uneducated if the disease is recognised it is looked upon as a harmless affection called "the blisters" and no further notice is taken of it, the child in question being probably allowed to go to school as usual. There are, however, a few authentic illustrations of the fact that varicella can assume a serious and even dangerous character from the intensity of its infection.

The following case appears to me to be worth while putting on record for the following reasons. In the first place because confluence with hæmorrhage into the vesicles is apparently so rare; secondly, because it emphasises the fact that diagnosis is made so much easier by being allowed to observe the disease from its onset; and, thirdly, because a skin lesion occurring during the incubation period seems to favour an extensive eruption—in fact, in this case it seems to have been the determining factor in the severity of the local lesions.

The patient, a girl, aged 13 years, was first seen on August 8th, 1906, and was then suffering from a somewhat irritable papular eczema of the face and the backs of both hands. The forehead, nose, and cheeks were especially irritable. She was otherwise quite well. This condition quite cleared up within two days under an application containing oxide of zinc. It should be mentioned that when an infant the patient had been unsuccessfully vaccinated three times, and when revaccinated in 1902 it was successful in two places only. The only serious acute illness previous to the present attack was acute anterior poliomyelitis when the child was aged four years, from which very slight deformity results. On August 10th in the evening she complained of headache, lassitude, and pains in the limbs and a few spots were noticed on the chest. She played tennis that evening and was somewhat restless that night. On the 11th she was out and about and one or two more spots were noticed on the chest. She was restless again that night. I was called to see her on the morning of the 12th, as a rash had appeared on the face. The temperature was 101° F. and the pulse was 80. There was the typical rash of varicella present on the chest, face, and limbs, and one or two typical vesicles on the buccal mucous membrane and soft palate. The rash was in different stages of eruption, showing papule, vesicle, and crust on the chest. There were no papules at the roots of the hairs on the forehead, and the wrists, back and front, were quite clear. The patient was quite comfortable and the irritation was practically *nil*. On the 13th the temperature was 101·6° and the pulse was 80. The eruption had further developed, especially on the face, the vesicles varying in size from a pin's head to a quarter of an inch in diameter. The rash was then so plentiful on the face that it would have

been impossible to find a free area of the size of a sixpence. The roots of the hairs were, however, still practically free, though there were, of course, many vesicles on the scalp. The chest and back were literally covered and the eruption was very plentiful on both arms and legs, back and front. The general condition was good, the patient being quite bright and cheerful and free from discomfort. On the 14th the vesicles on the face had become confluent in three places—viz., five on the forehead, three over the course of the right temporal artery on the forehead, and four on the right side of the neck over the sterno-mastoid muscle; the latter are well shown in the accompanying figure. The temperature was 101·6° and the

pulse was 84. There were more crops out on the legs and arms and even on the soles of the feet and palms of the hands. One single vesicle in the left mammary region just above the left nipple had attained a diameter of half an inch (? "varicella bullosa"). The general condition was quite satisfactory, the intellect was clear, and the patient was cheerful with a fair appetite. On the 15th, after a somewhat restless night, the morning temperature was 103°. The tongue was furred but moist. The pulse was 100 and of good volume. The heart sounds were clear. The urine was of specific gravity 1020; it contained no sugar or albumin. The eruption was, if anything, more exaggerated than on the previous day. The face was swollen, especially under the eyes, and had the appearance of being inflated. Hæmorrhage had taken place into the three regions where the eruption had become confluent; the surface of the pocks in these regions being somewhat flattened but intact and the pocks were dark purplish-black in colour. The eruption was present on both pinnæ and between the toes and fingers.

The patient at this stage certainly presented an alarming appearance, but even on this day (August 15th) was quite cheerful and expressed herself as feeling "much more comfortable." The only complaint had been that the "face felt very stiff all over." Had she been seen for the first time at this stage there might have been some reasonable doubt as to the diagnosis. The following seemed to be the chief points in the differential diagnosis between variola and varicella: 1. There was an epidemic of varicella in the neighbourhood and the patient had been exposed to infection. 2. After the first day or so of the disease there were no pains or other symptoms giving rise to discomfort (such as acute pain in the back) and the intellect remained clear throughout except for occasional wandering at night. 3. The eruption came out in definite crops and the papules had never at any time the shotty feel of small-pox papules. 4. The wrists and roots of the hairs at the forehead were the only parts of the body that were particularly free from the eruption throughout. 5. The great abundance of rash present on the trunk and the character of the vesicles which never had any deeply infiltrated areola about them. 6. The absence of any prolonged period of invasion (the patient was out and about with the rash present on the chest). 7. Successful vaccination within four years. 8. The fact that 16 days after contact with the patient her sister developed typical varicella, which ran a severe course, with abundance of rash and high pyrexia. It might be mentioned in addition that there have been no cases of small-pox in the neighbourhood for the past 10 or 15 years to my knowledge.

The subsequent course of the case was quite uneventful. On August 16th the temperature fell to 99·5°, and many of the vesicles had changed to crusts. No more hæmorrhage occurred and the patient made an uninterrupted recovery. (The photograph reproduced was taken on August 16th, the sixth day of the disease.) The last scabs to come off were those into which hæmorrhage had occurred, and this took place just four weeks from the onset of the first symptoms. The local treatment employed was a mask of carbolated vaseline for the face and occasional sponging of the rest of the body and limbs with a 1 in 60 carbolic acid lotion. The room was kept darkened throughout the acute stage of the eruption. There was at no time any evidence of marks of scratching, and as the patient had had her hands bound up as a precaution and had been very carefully watched night and day the element of traumatism as a cause of the hæmorrhage could be quite excluded. It was indeed a notable fact that there was very little irritation of the face, this being mostly confined to the trunk and limbs where no hæmorrhage took place. Unfortunately there has resulted considerable scarring where the rash was confluent. It is an interesting point that keloid has developed in two places—viz., where the rash was confluent and hæmorrhagic over the right sterno-mastoid, and also where the largest pock occurred, over the left nipple.

The only references I can find to the occurrence of a hæmorrhagic eruption in varicella are: 1. in an article by Dr. J. MacCombie in Allbutt's "System of Medicine," Vol. II., p. 181, where he says: "This form is very rare [i.e., hæmorrhagic varicella, to which he is referring], and the vesicles are usually few in number. Large and small ecchymoses appear with hæmorrhages into the cutis under the vesicle, accompanied by hæmatemesis and melæna." 2. Osler in his "Principles and Practice of Medicine," p. 70, says, "Cases have been described by Andrew of hæmorrhagic varicella with cutaneous ecchymoses and bleeding from the mucous membranes." On referring to Andrew's paper in the Transactions of the Clinical Society of London, 1890, it will be found that the cases described are very similar to Dr. MacCombie's description, being complicated by hæmorrhage from the mucous membranes. Savill[1] says: "Untoward symptoms such as gangrene and hæmorrhage into the vesicles are rarely met with." With regard to cicatrices Osler says: "Indeed, cicatrices after chicken-pox are not so very uncommon. They are in my experience more common than after varioloid."

Since writing the above, further information with regard to the literature has come under my notice, viz., E. W. Goodall, in an article on varicella in the *Medical Annual* for 1907, quotes three cases, by Rundle,[2] Neech,[3] and J. D. Rolleston[4] respectively. In Rundle's case there was hæmorrhage from the mucous and cutaneous surfaces but no confluence. In Neech's case there was confluence but no hæmorrhage. In Rolleston's case there were both. In the *British Medical Journal* of May 4th, 1907, p. 1051, there is an article on accidental rashes of varicella by J. D. Rolleston, to which is appended a very extensive and complete bibliography, in which the above cases are quoted.

Great Berkhamsted.

A NOTE ON THE ALBUMINOUS BODIES PRESENT IN PATHOLOGICAL EFFUSIONS.

BY W. CECIL BOSANQUET, M.A., M.D. OXON., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO CHARING CROSS HOSPITAL AND TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.

THE following brief note does not profess to add anything to our knowledge of the nature and proportions of the different albuminous bodies which occur in pathological effusions, but is written merely in the hope that it may save

[1] System of Clinical Medicine, vol. i., p. 591, 1905 edition.
[2] THE LANCET, June 16th, 1906, p. 1692.
[3] THE LANCET, Feb. 24th, 1906, p. 515.
[4] British Journal of Children's Diseases, January, 1906.

the time of other investigators by calling attention to a source of error which may not be adequately appreciated.

Some months ago I started investigating the proportions of albumin and globulins contained in pleural and ascitic fluids derived from different cases of disease. The method adopted was to separate the globulin fractions, known respectively as euglobulin and pseudo-globulin, by precipitation with different degrees of saturation with ammonium sulphate (the former being "salted out" in one-third saturated solution, the latter in one-half saturation). The precipitates were redissolved and coagulated by boiling and were then weighed. I was struck by the fact that a considerable difference was observable in the relative quantities of the two globulin fractions and of the albumin when estimations of these were made in freshly drawn fluid and in the same fluid after it had been kept for a few days, although no signs of decomposition were observable. I therefore made several estimations in order to make certain of this phenomenon. The following figures are examples of the results obtained :—

	Immediate.			Later.		
	Euglobulin.	Pseudo-globulin.	Albumin.	Euglobulin.	Pseudo-globulin.	Albumin.
Ascitic fluid A ...	1·1110	1·2771	1·1500	1·0850	1·3275	1·1210
,, ,, B ...	1·2935	1·3150	1·5750	1·2400	1·6145	1·3175

There was thus in each case an increase in the amount of pseudo-globulin in the fluid after standing, while the euglobulin and albumin decreased proportionately. In these experiments the fluids were kept in the cold for three and four days respectively, without addition of antiseptics, and the figures represent grammes per 100 cubic centimetres of fluid. Several other estimations were made with similar results on fluids preserved for periods of several weeks by means of small quantities of chloroform-water, but the error of experiment was greater, rendering the actual figures unworthy of record. Possibly the action of the antiseptic caused some change. A somewhat different change was observed in the case of some serum from the slaughter-house, which was kindly put at my disposal by Mr. A. N. Leathem, bacteriologist to Charing Cross Hospital; here an increase took place in the amounts of both the globulin fractions, with a corresponding decrease in the albumin. The general effect was, however, the same—viz., an increase of the globulin present at the expense of the albumin.

On separating the different fractions by precipitation, re-dissolving them in water, and keeping them by addition of chloroform-water for some weeks, the same change was observed, but to a very minute extent compared with that in the fresh fluid. It thus seems probable that the change is due to the action of enzymes present in the original fluid, which are to a great extent destroyed or removed in the process of separation. If this be so, it is almost certain that the change in question is taking place in the effused fluid during its retention in the body, when the conditions are most favourable for the action of such substances. On this account it is that I venture to suggest that estimation of the albumin and globulins contained in pathological fluids, by means of the "salting out" method, is of no value, owing to the changes effected by time in the apparent amounts of these substances.

As to the exact nature of the change effected I cannot speak with certainty. Moll [1] considers that it is possible by the action of weak alkalies to convert albumin into globulin, and a similar action by enzymes in such fluids as I have investigated is clearly conceivable. On the other hand, Professor W. D. Halliburton, whom I consulted in the matter, points out that the change is more likely to be an alteration in solubility, not a change from one body to another, and this explanation appears much more probable. The chemical differentiation of albumin from globulin by hydrolysis and isolation of the resulting cleavage-products (globulin giving rise to glycocol, while albumin contains none of this component [2]) is unfortunately beyond my powers.

Harley-street, W.

[1] Moll: Beiträge zur Chemischen Physiologie und Pathologie, 1905, Band vii., p. 311.
[2] Abderhalden and Pregle: Zeitschrift für Physiologische Chemie, 1905, Band xlvi., p. 24.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Fractures of the Odontoid Process of the Axis.

A MEETING of this society was held on May 14th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. STEPHEN PAGET read a paper, in the absence of the author Mr. E. M. CORNER, on Fractures of the Odontoid Process of the Axis. He said that the subject of fractures of the odontoid process had always been one which had been surrounded with mystery. The reason for this had been the same as in other and similar instances. The mystery was entirely due to lack of knowledge. Popularly, fracture of the odontoid process was supposed to be the lesion which resulted from the judicial execution of criminals. In a paper published in the St. Thomas's Hospital Reports, 1905, he had shown that this was not the case, but that the lesion occurred lower down in the cervical spine. In order to obtain a sure grasp of the subject a careful examination was made of all specimens which could be found in the various museums of the British Isles. After specimens and their clinical histories had been investigated the cases recorded in the literature were examined. Clinically, the result of the inquiry could be summed up as follows: there was no reason why a man should not fracture his odontoid process, as could be proved by the x rays, especially when the skiagraph could be taken through the open mouth, and recover without any spinal cord symptoms, such as paralysis or anæsthesia—in fact, with no more discomfort than that of a stiff and painful neck. It would seem that there was more danger, except in cases which had spinal symptoms, from overlooking the fracture than from the injury itself. This was the happy side of the clinical picture. The other was the penalty, instant death, which was sometimes exacted if the injury was overlooked. In fact, fractures of the odontoid process fell into line with what was the case with regard to other fractures of the upper cervical spine[1]—namely, that the subjects may have no more symptoms than a stiff and painful neck. So that it was possible to go further and generalise that all cases of injury to the neck should be skiagraphed and examined by a skilled radiographer—for it was easy for one unskilled in the interpretation of spinal skiagraphs to overlook the injury—so as to avoid the risks of overlooking a fracture.

The PRESIDENT referred to two cases of fracture of the odontoid process in which the men were able to continue work without discomfort for about five months and then suddenly developed paralytic symptoms and died. He also referred to destruction of the odontoid process by disease.

MEDICAL SOCIETY OF LONDON.

General Meeting.—Mobility of the Kidneys.—Some Heart Affections without Murmurs.

A GENERAL meeting of this society was held on May 13th, Sir EDGCOMBE VENNING, a Vice-President, being in the chair. The annual reports of the council, of the house and finance committees, and of the librarian were received and adopted. The following gentlemen were elected to hold office during the ensuing year:—President: Dr. James Kingston Fowler. Vice-Presidents: Sir John Tweedy, Sir Edgcombe Venning, Sir Lauder Brunton, and Sir Felix Semon. Treasurer: Mr. John Langton. Librarian: Dr. Arthur Francis Voelcker. Honorary Secretaries: Dr. Frederick John Poynton and Mr. Thomas Herbert Kellock. Honorary Secretary for Foreign Correspondence: Mr. H. J. Waring. Council: Mr. Robert Cozens Bailey, Mr. Charles A. Ballance, Mr. Leonard Bidwell, Dr. J. Rose Bradford, Dr. Edmund Cautley, Dr. Bertram Dawson, Dr. John H. Drysdale, Dr. Wilfred Harris, Dr. Robert Hutchison, Mr. Francis Jaffrey, Mr. Corrie Keep, Dr. C. A. S. Leggatt, Dr. Percy Lush, Dr. Joseph A. Ormerod, Dr. J. Porter Parkinson, Dr. J. S. Risien

[1] Transactions of the Clinical Society 1903, 1904, and 1905.

Russell, Mr. Cuthbert S. Wallace, Mr. Charles Gordon Watson, Dr. F. Parkes Weber, and Dr. W. Essex Wynter.

An ordinary meeting of the society was then held and Dr. HECTOR MACKENZIE read a paper on Mobility of the Kidneys. The communication was founded on the personal examination of nearly 4000 patients at St. Thomas's Hospital and the Brompton Hospital for Consumption. The condition was occasionally a cause of suffering and inconvenience or actual distress. Many cases were overlooked from various causes. The method of examining the kidneys followed by Dr. Mackenzie was described in detail. An abnormally moveable kidney was defined as one in which it was possible to get the hand completely above the upper end and to palpate the whole organ. A palpable kidney was one where, although the greater part of the organ could be felt, it was impossible to displace it so as to get above it. 2801 females of all ages were examined. Among these were 449 cases in which the kidneys were palpable and 515 in which the kidneys were moveable as defined. 1067 males of all ages were also examined. Among these were 25 cases in which the kidneys were palpable and 11 cases in which they were moveable. Thus among the female cases there were 18·4 per cent. of moveable kidneys and among the male cases only 1 per cent. Of the 526 cases of moveable kidney which were observed there was only one where the mobility existed on the left side alone. In 49 cases both kidneys were moveable. In 476 cases the right kidney only was moveable. The patients examined were suffering from a variety of complaints. Those affected with chest complaints suffered from moveable kidneys to as great an extent as those affected with dyspepsia or other disorder. It had long been supposed that child-bearing had an important influence in the production of abnormal kidney mobility but this supposition was not supported by Dr. Mackenzie's investigations. A certain degree of mobility was normal. Sex was the most important causal factor but this could not be accounted for by repeated pregnancies. As to symptomatology, out of 526 cases with definitely moveable kidney no fewer than 411 were wholly unaware of its existence. Dragging pain in the lumbar region was the most constant symptom, disappearing with rest. Dr. Mackenzie expressed considerable doubt whether moveable kidney *per se* could produce general symptoms such as neurasthenia or symptoms referable to other organs. The most efficacious treatment in severe cases was some kind of support; surgical measures were seldom advisable and were at the utmost only successful in about 57 per cent. of cases operated upon.—Dr. VICTOR BONNEY in the main agreed with Dr. Mackenzie's conclusions. It was, however, advisable to examine the patient in the erect position. The degree of mobility was not a measure of the inconvenience likely to be suffered by the patient. In many subjects with lax abdominal walls the kidney came down by inspiration, but it would return with expiration. Much depended on the tension of the neuro-vascular pedicle and this would often be detected by finding the kidney in an oblique position and not finding an expiratory return. These were the two chief physical signs.—Dr. F. DE HAVILLAND HALL agreed as to the inadvisability of operation in the majority of cases. Great benefit might be derived from the feeding of these patients.—Mr. H. W. WILSON had investigated 60 cases operated on at St. Bartholomew's Hospital. Complete cure had resulted in 40 per cent. of the cases—i.e., all symptoms were relieved and the patient had remained well over a considerable period of time. After operating experimentally on cats he had found it best to decapsulate the kidney. It was better than simple fixation.—Mr. L. B. RAWLING also took a more hopeful view of operation as a means of treatment. It was not necessary to remove the organ. It was essential to decapsulate the kidney and to remove the fat behind so as to give a firm attachment. It should be sewn up as high as possible close to the upper border of the twelfth rib.—Dr. S. WEST referred to the difficulty of diagnosis of a moveable kidney and to the advantage of examining by changes of posture. Percussion from the back was often helpful. Caution was required in advising such severe operations as those referred to.—Dr. C. M. H. HOWELL remarked on the usual absence of symptoms. Multiple pregnancies did not seem to have much influence in the causation. He advocated operation in acute cases or if urinary changes were present.—Mr. A. C. BUTLER-SMYTHE referred to the difficulty of diagnosis and advocated repeated examination. An accumulation of flatus was sometimes mistaken for a dislocated kidney.—Dr. MACKENZIE replied.

Dr. WALTER BROADBENT (Brighton) read a paper on Some Heart Affections without Murmurs. He dealt chiefly with myocarditis, cloudy swelling, and fatty degeneration. In myocarditis there were an increase in the pulse-rate, rise of temperature, and some dilatation, especially of the right ventricle. In mild chorea or rheumatism it was often neglected, the patient not being sent to bed and the consequence was often a permanently damaged heart. Cloudy swelling was the commonest affection of the heart muscle, occurring in all febrile diseases; it was first studied by Stokes in 1839. The chief signs were a progressive weakening and shortening of the first sound, increased rapidity of the heart, and a disappearance of the apex beat; in bad cases the first and second sounds were often approximated. In typhoid fever were seen the most typical cases. In influenza cloudy swelling came on very rapidly and was a great danger. In diphtheria cloudy swelling quickly passed into fatty degeneration and though antitoxin had lessened this tendency it had not abolished it. Intermittence of the pulse during the febrile stage was a sign of great danger in influenza, diphtheria, and pneumonia, being usually a forerunner of acute heart failure. Dr. Sibson in 1873 first pointed out the great danger of distension of the stomach or colon to a heart weakened by fever or other disease. Pressure of a distended stomach through the diaphragm on the right ventricle often caused fatal syncope. Fatty degeneration occurred after acute illnesses, such as diphtheria, and in acute yellow atrophy of the liver, also in long diseases, such as pulmonary tuberculosis and cancer, but the most important cases were those arising in the latter half of life, some from obstruction of the coronary arteries and others without any known cause. The symptoms might be shortness of breath on exertion, faintness, præcordial pain, angina, vertigo, cardiac asthma, or epileptiform attacks with bradycardia. The pulse was short and unsustained. The apex beat was imperceptible and the heart sounds were weak, especially the first sound. Distension of the stomach or colon was a great danger in these cases also, bringing on attacks of angina or syncope and often being the cause of sudden death. In treatment Dr. Broadbent advocated a quiet life, massage in the evenings, and short courses of the iodides and strychnine alternating with other tonics.—Dr. WEST referred to the value of percussion as a means of diagnosing myocardial failure and to the importance of not allowing patients recovering from pyrexial conditions to leave their beds too soon.—Dr. F. J. POYNTON had often found muscular failure and dilatation, without any valvular disease, in animals inoculated with the rheumatic diplococcus. He dealt with the treatment and advocated adrenalin and sodium formate.—The subject was also discussed by Dr. W. H. WILLCOX and by Dr. PARKES WEBER; and Dr. BROADBENT replied.

CLINICAL SOCIETY OF LONDON.

Gastro-enterostomy for Chronic Ulcer.—The Persistence of Widal's Reaction after Typhoid Fever.—Precocious Obesity and Hirsuties with Hypernephroma.

A MEETING of this society was held on May 10th, Mr. H. H. CLUTTON, the President, being in the chair.

Mr. JAMES SHERREN read a paper entitled "Gastro-enterostomy for Chronic Gastric Ulcer; Healing of Ulcer Verified at Post-mortem Examination 28 Months Later." The patient, a man, aged 46 years, was admitted to the Poplar Hospital in October, 1904. He had had gastric symptoms for six years and for nine months had been in bed with severe pain which prevented him from taking solid food. An operation being performed a large ulcer was found on the lesser curvature. Posterior gastro-enterostomy being impossible on account of adhesions the anterior operation was done, with no loop. Great improvement ensued but 22 months later melancholia developed and the patient cut his throat. At the necropsy the stomach was found to be only adherent to the pancreas. The gastro-enterostomy opening admitted two fingers and the pylorus was also patent. The ulcer, examined microscopically, had healed completely. Mr. Sherren commented on the good results obtained through gastro-enterostomy, even when the ulcer was distant from the pylorus, so that excision was not the operation of choice even in such cases.—The PRESIDENT asked whether Mayo Robson's method of fixing the jejunum so as to make it lie from left to right had been adopted. He had used it as a routine measure for the past 18 months.—Mr. SHERREN replied in the negative. He had tried Mayo Robson's method in later cases but had given it up.

Dr. HERBERT S. FRENCH and Dr. M. G. LOUISSON communicated a paper entitled "On the Extent to which Widal's Reaction persists after Recovery from Typhoid Fever." 135 patients had been traced who, whilst in Guy's Hospital with typhoid fever, had given Widal's reaction, the standard being clumping within half an hour in a dilution of 1 in 200. The test was repeated with these patients at periods after the illness varying from two months to ten years. It was concluded: 1. In 7·5 per cent. of the cases a complete reaction was obtained, in 22·5 per cent. an incomplete one, and in 70 per cent. no reaction. 2. The interval that had elapsed after the illness made comparatively little difference. It would almost seem as if the cases that persisted at all persisted perhaps indefinitely; several cases lasted eight years. 3. A complete reaction was present in 11 per cent. of the men and in none of the women. 4. Suppurative complication made it only slightly more probable that the agglutinative power would persist. 5. Age bore no relation to the likelihood of persistence.—The PRESIDENT remarked that he had found the bacilli in the bone complications of typhoid fever three years after the fever.—Dr. W. P. HERRINGHAM discussed the question of second attacks in specific fevers. This bore no relation to the severity of the first attack or to age. In measles women were more likely to suffer from a second attack than men, though the reverse held with typhoid fever.—Dr. FRENCH, in reply, said he had not examined the cases for bacilluria and it was possible that the persistence of bacilli might be correlated with the persistence of agglutinative power.

Dr. LEONARD G. GUTHRIE and Dr. W. D'ESTE EMERY communicated a paper on Precocious Obesity and Hirsuties, with Hypernephroma. The patient, a boy, aged four and three-quarter years, was 36 inches high, and weighed over four stones. There was a large general growth of hair, but the genital organs were not developed. There was marked general obesity, especially pronounced in the cheeks and mammæ. After death from pulmonary tuberculosis a hypernephroma was found on the left side; microscopically it was found to consist chiefly of necrobiotic cortical adrenal tissue; many giant cells were present. It was probably a carcinoma, although there was no infiltration or metastasis. Another case was also described which had occurred in a girl, aged three and a half years, who was 30 inches high and weighed 37 pounds. In the preceding three months she had grown an inch and gained six pounds. She measured 26 inches round the abdomen and 13 inches round the thigh. There was general obesity with pendulous mammæ. She had the appearance of a woman aged 50 years. The cheeks were bloated and blotchy. There were lineæ gravidarum on the thighs. Hair grew on the pelvis at the age of three years but the sexual organs were not developed. At the necropsy no growth was found but the adrenals were not examined microscopically. In both cases the pulse was very intermittent and the intelligence was good. The cases collected by Bulloch and Sequeira were criticised and stress was laid on the general obesity of the majority of them, nine of the cases being girls and two boys. In 12 cases the growth was on the left side, and in two on the right.—Mr. RAYMOND JOHNSON referred to a case which he had seen of a boy, aged 14 years, with enormous muscular development and hirsuties. The boy had had to shave daily since the age of ten years. A large perithelioma of the adrenal was present and slowly proved fatal.—Mr. JOHN D. MALCOLM spoke of a woman, aged 50 years, who had had a large adrenal tumour removed by operation. An overgrowth of hair had been developing for years and she had had to shave daily.—Dr. F. PARKES WEBER divided the cases into two groups: (1) those with great muscular development, and (2) those with precocious obesity. He separated the latter cases, with a bloated stretched skin, from cases of "excessive obesity." There was a case on record in a boy in whom such symptoms, including a beard, had disappeared after removal of a testicular tumour; might an adrenal tumour grow in connexion with the testicle?

LIVERPOOL MEDICAL INSTITUTION.

Nucleo-albuminuria simulating Myelopathic Albumosuria.—Intra-tracheal Injections of Izal in Bronchiolectasis.—Epidemic Cerebro-spinal Meningitis.—Renal and Ureteral Calculi and Renal Tumours.

A MEETING of this society was held on May 2nd, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. T. R. BRADSHAW related the case of a lad, aged 17 years, in whom Nucleo-albumin in a large amount was mistaken for Myelopathic Albumose. The patient when seen was greatly emaciated and exhausted and died in about a week. The urine contained about 1 per 1000 of a protein body which gave a turbidity when the urine was gently warmed with acetic acid and which coagulated with hydrochloric acid. There were a remarkable deformity of the sacrum and tenderness over the upper ribs. The necropsy showed extensive matting of the intestines from tuberculous peritonitis, marked lordosis, and inflamed glands under the pectorals. The bone substance was normal. After removing the urinary salts by dialysis the protein was found to be precipitated by a trace of acetic acid and gave the other reactions of nucleo-albumin. The significance of nucleo-albuminuria was not understood.—Dr. HUBERT ARMSTRONG remarked that nucleo-albumin occurred in the urine of children with some frequency. Precipitating with acetic acid in either hot or cold solutions, nucleo-albumin was occasionally mistaken for serum-albumin when the acid was not added to the urine until after boiling. In none of the cases which he had seen could he attach any clinical significance to the presence of nucleo-albuminuria.

Mr. COLIN CAMPBELL and Dr. MASSON communicated a case of Bronchiolectasis and exhibited the patient, a male, aged 38 years. When two years of age he had a severe attack of German measles with pneumonia and when 12 years old another attack of pneumonia. After the first attack he had never been free from cough. He came under Dr. Masson's care in 1901 and was then expectorating about a pint of glairy mucus twice in the 24 hours. The physical signs were practically confined to the lower lobe of the left lung. There were marked clubbing of the fingers, typical odour, and much emaciation. For four years his condition grew worse in spite of all treatment and the patient spent the winter in bed. At the suggestion of Dr. J. Dreschfeld, who saw the patient in consultation with Dr. Masson, the patient was placed in Mr. Campbell's charge for intra-tracheal treatment. This treatment was commenced in May, 1906, and continued until December. About two and a half ounces of a 9 per cent. solution of izal in glycerine was administered daily, and by means of Mr. Campbell's revolving chair the medicament was sent directly into the diseased part. While not liking the word "cure," Mr. Campbell claimed that it looked as if the patient had been cured. He had spent the last winter at work on his farm instead of in bed, had gained 16 pounds in weight without any attempt at fattening, the clubbing of the fingers had disappeared, and there were no cough and no expectoration.—At the request of the PRESIDENT, Sir JAMES BARR examined the patient and reported that he agreed with Mr. Campbell's estimate of the effect of the treatment.

Dr. CLAUDE RUNDLE and Dr. R. STENHOUSE WILLIAMS gave a full account of a case of Cerebro-spinal Meningitis. The opsonic index was first determined on the twenty-third day of the disease and the vaccine was first administered on the twenty-seventh day and for the fifth and last time on the thirty-first day. The coccus was obtained in pure culture from the cerebro-spinal fluid on Löffler's blood serum. It stained with the usual aniline dyes and was Gram negative. As to morphology, there were cocci, diplococci, and tetrads; the adjacent surfaces of diplococci were flattened; no tendency to chain formation in liquid media was observed. Anaerobic cultures at 37° C. were negative and aerobic cultures at 20° C. were likewise negative. The behaviour of the organism was compared with that of three strains from Glasgow and one from Belfast in ascitic fluid, carbohydrate cultures at 37° C. The agglutination reactions were fully described. Dr. Rundle and Dr. Williams did not, of course, claim that the recovery of a single case was to be regarded as proof of the efficacy of the vaccine, but recovery after the patient had been almost *in extremis* and dating from the first administration of the vaccine was at least encouraging.

Mr. W. THELWALL THOMAS read a paper on Renal and Ureteral Calculi and Some Kidney Tumours. The cases of stone formed a series of 28 operated on since 1904, a large proportion being since 1905 when the x rays proved of great service in locating even tiny calculi. All the radiographs had been taken by Mr. C. Thurstan Holland. The most common symptom had been pain in the back of a dull aching character. This occurred in 17 cases, typical renal colic only occurring in nine. Colic was associated with hæmaturia and pyuria in three and with hæmaturia alone

and pyuria alone in one case each. In seven cases pain in the back was associated with pyuria, in three with hæmaturia and pyuria, and in two with hæmaturia. Hæmaturia was the only sign in five cases and pyuria in 13. The cystoscope was of service in some cases by enabling ureteritis to be diagnosed but the important confirmatory evidence was supplied by the radiographs. The operative procedures that had been undertaken were then discussed. Seven cases of renal tumour were related and six of hypernephroma, hæmaturia being the chief symptom in all. All the tumours were removed by the lumbar incision, in one case prolonged anteriorly, the tumour weighing 5 pounds. Four of the hypernephroma patients were still quite well. In cases in which the kidney could not be made out by palpation cystoscopic examination enabled the affected side to be decided upon. A full epitome of the calculous cases had been compiled by Dr. R. E. Kelly; this was circulated amongst the members and the calculi and radiographs were exhibited.—The following gentlemen discussed the paper: the PRESIDENT, Mr. G. G. HAMILTON, Mr. THURSTAN HOLLAND, Dr. J. HILL ABRAM, Mr. RUSHTON PARKER, Mr. R. W. MURRAY, Mr. K. W. MONSARRAT, Mr. R. A. BICKERSTETH, Sir JAMES BARR, and Dr. E. T. DAVIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 3rd, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. James Adam showed: 1. A patient with Atrophic Rhinitis treated by Paraffin Injection. There had been purulent discharge since childhood, with crusting, &c. Solid paraffin (melting point 45° C.) was injected in quantities of about one cubic centimetre at a time. Sandemann's sucker was used instead of massage before injection. 2. A patient with Tuberculous Lesions of the inferior turbinal, the soft palate, the pharynx, the larynx, the tongue, the cervical glands, and the metacarpal bones. Both inferior turbinal bones were thickened and the right was ulcerated. The soft palate was ulcerated and there was a small ulcer at the back of the tongue. The epiglottis was greatly thickened, as were also the ventricular bands and the arytenoids. By injections of T.R. the opsonic index was raised from 0·63 to 0·94. Lactic acid was applied to the inferior turbinals with benefit. The patient was still working. 3. A case of Chronic Adenoma of the Face. A girl, aged 22 years, suffered from scab formation at the orifice of the left nostril five years ago. A swelling started at the inner cantnus of the left eye and gradually extended down to the level of the mouth and beyond the outer aspect of the eyebrow. The inferior turbinal was very greatly swollen. The crusts were removed with peroxide of hydrogen and nitrate of silver was applied. The turbinal swelling was reduced. Iodide of potassium and thyroid extract were given. The œdema disappeared in two months.—Dr. Archibald Young showed a case of Subspinous Dislocation of the Head of the Left Humerus in a girl, aged ten years. There was a history of an instrumental delivery. Neither the anatomical relations nor the radiographic findings gave countenance to a diagnosis of true congenital dislocation and the completeness of the displacement, with the now almost normal condition of all the muscles of the affected limb (except those actually stretched over the displaced head—viz., the infraspinatus and teres minor), seemed to negative the view that the displacement might be secondary to injury of the brachial plexus. The position of the arm was characteristic and the whole extremity was shortened to the extent of several centimetres, the greater part of the shortening being directly due to the displacement of the numeral head. A point of great interest in the case was the strikingly free range of movement. For example, the power of elevation was almost equal to that on the normal side. This was due to the great accommodative mobility of the whole scapula upon the trunk. The movement of external rotation of the arm and, as a complement, of supination of the forearm and hand was, however, very much limited, and it was believed that this of itself was sufficient to justify the adoption of active means to replace the head of the humerus in its normal site. Probably this could only be accomplished by an open operation, but it was thought to be fully justified. A detailed demonstration of the shoulder and of the various movements was given and a series of illustrative photographs were shown; a radiograph showing the relations of the bony skeleton of both shoulders was also exhibited.—Dr. G. A. Allan read notes on a case of Primary Cancer of a Bronchus. The tumour blocked up the left main bronchus and there were a few isolated nodules in the lungs. The pericardium was directly infiltrated. The pleura was thickened and contained a few tumour masses. The left vagus and left recurrent laryngeal nerve were pressed on. Nodules were also found in the thyroid, cervical glands, and mediastinal glands. The liver was not implicated. The tumour was a scirrhous carcinoma. The symptoms were pain in the chest and left arm, breathlessness, hoarseness, cachexia, cough, and muco-purulent expectoration. The left arm was swollen. The left pupil was contracted and there was partial ptosis of the left upper eyelid. The left vocal cord was completely paralysed. There was sweating of the right side of the head and face.—Dr. W. B. Inglis Pollock read a paper on the Relationship of Myopia to School Work. His investigations among school children showed 1·7 per cent. at five years, 8·5 per cent. at 13 years, and 25 per cent. at 18 years. Over 50 per cent. of medical students had myopia. Almost all myopia originated during school life. This was due to the yielding eye of childhood. The prevention of near sight formed a large part of school hygiene. Medical inspection had been accepted by Parliament. It was of the greatest importance that the inspection of the eyes should be carried out by specially trained oculists. This was requisite, since the fundus of the eye should be examined on admission and every second year.—The following office-bearers have been elected for the session of 1907–08:—President: Dr. J. Walker Downie. Vice-presidents: Dr. R. Barclay Ness and Dr. Joshua Ferguson. Treasurer: Dr. Alfred A. Young. Editorial secretary: Dr. J. Scott. General secretary: Dr. Archibald Young. Councillors:—Section of medicine: Dr. N. Macnair, Dr. W. Grant, Dr. John Brownlee, and Dr. Donald MacAlister. Section of surgery: Dr. J. Laurie, Dr. J. G. Connal, Dr. A. McLennan, and Dr. M. L. Taylor. Section of pathology: Dr. Leslie Buchanan, Dr. R. Bruce Young, Dr. Leonard Findlay, and Dr. John Anderson. Section of obstetrics: Dr. R. Jardine, Dr. S. J. Cameron, Dr. John Lindsay, and Dr. W. D. McFarlane, jun.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—A meeting of this society was held on May 4th, Mr. A. E. Cumberbatch, the President, being in the chair.—Mr. A. H. Cheatle showed a series of 96 Temporal Bones exhibiting a condition which he called Infantile. The outer antral wall was thick, the mastoid process diploetic, and the compact bone increased in thickness. There were no mastoid cells. Surgically the condition was important because of the probability of disease spreading internally rather than externally, of the absence of external signs of suppuration, and the unusual forward position of the lateral sinus in these cases.—Dr. J. Donelan read notes on the Frequency of Marked Enlargement of the Pharyngeal Extremities of the Eustachian Tubes with remarks on 14 cases. Several members thought this was not such an unusual condition as had formerly been considered.—Dr. Donelan also showed a portion of the Temporal and Occipital Bones with attached Dura Mater showing an Occluded Lateral Sinus and read notes of the case.—Mr. R. Lake showed an Electric Otomasseur giving up to 18,000 vibrations a minute. In the discussion which followed the opinion was expressed by several members that otomassage was of only slight value.—Mr. C. G. Lee reported a case of Extra-dural Abscess in a patient, aged 35 years, who had had otorrhœa for 12 months. Symptoms of giddiness, vomiting, severe headache, and incoherency were present. Recovery followed a complete mastoid operation, during which it was found that the roof and posterior wall of the tympanum were absent.—Mr. Lee also read notes of a case of Chronic Otorrhœa in a child, aged ten years. After being knocked down in the school playground she complained of headache, vomiting, and pain in the right ear, followed in a few days by a rigor. At the operation there was extensive mastoid disease and suppuration round the lateral sinus, which was thrombosed. This was incised and the clot cleared out and complete recovery followed. A third case, somewhat similar to the last, following a blow on the ear terminated fatally. Here the sinus was not opened at the first operation, but two days later, owing to further symptoms, Mr. E. M. Stockdale removed nearly the whole length of the collapsed and cord-like jugular vein and much of the lateral sinus, the patient eventually dying from meningitis and pneumonia.—Dr. W. Milligan showed a Temporal Bone from a case of Fracture of the Skull. The fracture involved the middle ear and external auditory meatus, extending upwards and backwards into the occipital bone behind the lateral sinus and then through

the sinus back to the petrous. Considerable hæmorrhage had occurred from the sinus.—The discussion turned upon the prognosis as to recovery of hearing in those cases which recovered from the fracture.—Dr. MacBride considered that the subject was full of difficulties and that much would depend upon the amount of hearing present and the date of examination.—Dr. Urban Pritchard believed that any improvement would occur within the first three months following the injury, and Mr. Lake thought that fracture through the labyrinth must be quite incurable.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on May 9th, Dr. Heywood Smith being in the chair.—Dr. A. E. Giles read a paper entitled "Observations on the Surgical Treatment of Inflammatory Diseases of the Uterine Appendages based on a Series of 120 Cases." After referring to the absence of any necessity for vindicating the justification of surgical interference in such cases, Dr. Giles presented a tabulated list of cases in which he classified them into non-suppurative and suppurative. In unilateral salpingitis the main indication for operation was pain. In bilateral non-suppurative disease the uterus was retroverted and fixed in about half the cases. Tuberculous disease was unilateral in one case out of six. When suppuration was present 16·2 per cent. of the cases were unilateral. More than half of the whole series were bilateral and were probably due to gonorrhœal infection. As a rule it was not necessary to remove the uterus because of prolonging the operation and impairing the integrity of the pelvic floor. Salpingostomy was of little value when the tubes were occluded by inflammation. In separating adhesions it was easier to work from above at first and then from below, afterwards isolating the outer extremity of the broad ligament and clamping the ovarian arteries. The uterus tended to become retroverted after removal of the tubes and therefore ought to be fixed to the abdominal wall. In tuberculous salpingitis with hydroperitoneum flushing was advised but not otherwise. Drainage was best avoided in tuberculous lesions but should be used when there was a tendency to oozing or when the bowel was damaged. In acute septic peritonitis a large rubber drain was employed, but in other conditions gauze was inserted for 48 hours when necessary. The value of Fowler's position was emphasised, aided by repeated injections of saline solution.—Dr. J. J. Macan was disappointed to find that Dr. Giles so strongly recommended abdominal drainage rather than vaginal. Instead of simple section of diseased tubes he preferred excision from the cornu of the uterus. The danger of peritonism was much less when calomel was given after the operation.—Mr. Charles Ryall had discarded suprapubic drainage for vaginal some years ago.—Mr. Smallwood Savage believed that cases of acute pyosalpinx should be treated by a vaginal incision and drainage, as in some cases so treated both tubes and ovaries would resume their normal functions.—Dr. H. M. Macnaughton-Jones agreed that hæmatosalpinx occurred apart from ectopic gestation. He urged the necessity of increasing the resistance of patients so far as possible.—Dr. R. T. Smith, Dr. W. H. Slimon, and Dr. Heywood Smith also spoke, and Dr. Giles replied.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on May 8th, Dr. W. G. Dickinson, Vice-President, being in the chair.—Dr. Purves Stewart gave an address on the Cerebro-spinal Fluid, its Diagnostic and Therapeutic Significance. After carefully explaining the details of the technique of lumbar puncture, pointing out the precautionary measures to be taken, the difficulties that might be encountered, and the manner in which they might be avoided or overcome, he described the characters of normal cerebro-spinal fluid, comparing them with those found in various morbid conditions as regards the physical, chemical, bacteriological, and microscopical features, and showed the values which could be attached to the different states of the fluid for diagnostic purposes, with special reference to epidemic cerebro-spinal fever. Dr. Stewart, in dealing with the therapeutics of lumbar puncture, mentioned tuberculous meningitis, cerebral tumours, persistent tinnitus, fracture of the skull, uræmic coma, tetanus, and strychnine poisoning as illustrations of its beneficial use. The use of stovaine and adrenalin or of cocaine for the purpose of obtaining analgesia was fully entered into, Dr. Stewart expressing the opinion that spinal anæsthesia should be reserved for special cases where the use of a general anæsthetic was dangerous. The address was illustrated by lantern slides.—Mr. C. Ryall supplemented the address by giving his personal experiences of spinal analgesia in his surgical practice. He found novocaine the most efficient agent and recommended that the puncture should be made as high as the second lumbar interspace and that a portion of the spinal fluid should be withdrawn before the injection. Among other operations which he had successfully performed under such anæsthesia he instanced hysterectomy, excision of the rectum, and amputation of the thigh, each of them cases in which a general anæsthetic was contra-indicated.—Dr. Dickinson, Mr. E. Caudwell, Mr. J. Gay, Mr. Mark Robinson, and Dr. D. M. Aitken took part in the subsequent discussion.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on May 3rd, Dr. T. R. C. Whipham being in the chair.—The following were among the cases shown:—Dr. C. O. Hawthorne: Dextrocardia and Valvular Disease in a boy, aged 14 years. The cardiac dulness was on the right side and the heart's impulse below the right nipple; there was heard a systolic murmur which was conducted round the right side of the chest. A skiagram could not be obtained.—Mr. Hugh Lett showed a baby, aged seven months, with Multiple Fractures of the bones noticed at birth; skiagrams showed old fractures surrounded with callus. There were hydrocephalus and some evidence of rickets. The family history was good, but the mother had been in delicate health during pregnancy and had two bad falls during the seventh month.—Dr. F. W. Higgs showed a boy, aged three years, who while recovering from whooping-cough about two years ago, developed pain and swelling in certain joints. The lesions persisted in a subacute form and at present there was peri-arthritis of the joints of the wrists, ankles, knees, and cervical vertebræ. The spleen and glands were not enlarged. The disease was evidently toxæmic.—Mr. G. Pernet showed a case of Erythema Iris.—Dr. J. Porter Parkinson showed a case of Cerebral Tumour for which craniotomy had been performed. The optic neuritis, previously very intense, had disappeared and with it the weakness of sight, headache, vomiting, and convulsions, while the paralysis had improved in the face and arm. The tumour was probably a subcortical glioma.—Dr. D. C. L. Fitzwilliams showed a case of Multiple Exostoses in a boy, aged 10 years, on the long bones, ribs, scapulæ, and clavicles. He was the youngest of a family of seven; the mother and all her children had similar growths but had suffered no inconvenience and the growths had not increased after the first few years of life.—Mr. J. P. Lockhart Mummery showed a case of Erb's Paralysis of the Left Arm in a boy, aged three months, due to a difficult labour. Apparently the posterior cords of the brachial plexus had been ruptured, causing paralysis and electrical changes of the flexor and extensor muscles except the flexor sublimis digitorum. There were some adhesions in the shoulder-joint.

THE MIDDLESEX HOSPITAL.—The Duke of Connaught presided on May 10th at the festival dinner of the Middlesex Hospital, held at Prince's Restaurant, Piccadilly, London. His Royal Highness in the course of his remarks on the toast of the evening, "The Middlesex Hospital," said that the endowment was so poor that only 15 per cent. of their income came from invested funds, 35 per cent. came from various funds and the efforts of charitable people and the remainder was dependent on what the general public supplied. Every penny subscribed was so well spent that he believed of all hospitals the Middlesex was the most economically and efficiently managed. Lord Cheylesmore, the chairman of the hospital board, in responding to the toast, deprecated State management of hospitals; he believed if that day came it would be the worst day that could dawn for such institutions. Dr. J. Kingston Fowler and Mr. Andrew Clark also replied to the toast. Dr. Fowler said that the general public were apt to forget their indebtedness to the great general hospitals as centres of medical education, but the governors of the Middlesex Hospital had always loyally supported their medical school. The toast of "The Visitors" was submitted by Lord Derby and acknowledged by Sir T. H. Brooke-Hitching, the mayor of St. Marylebone. The Duke of Northumberland proposed the health of "The Chairman," which received a suitable response. The donation list amounted to £6500.

Reviews and Notices of Books.

The Practical Medicine Series. Vol. IX., Anatomy, Physiology, Pathology, Dictionary of New Words. Edited by W. A. EVANS, M.S., M.D.; ADOLPH GEHRMANN, M.D.; and WILLIAM HEALY, A.B., M.D. Series 1906. Glasgow: G. Gillies and Co. Chicago: The Year-book Publishers. Pp. 236.

THIS little volume, one of ten dealing with the progress made in the past year in medicine, surgery, and the allied sciences, contains short summaries of a number of monographs upon special subjects in anatomy, physiology, pathology, and bacteriology. The accounts given are in most cases sufficiently long to be intelligible and are in many cases illustrated by the authors' plates or diagrams, so that a considerable amount of valuable information is compressed within comparatively small compass. The section devoted to anatomy contains references to only five papers, an exiguous record which we hesitate to accept as a summary of the year's advance in applied anatomy. The section on physiology is also short but contains a useful *résumé* of recent work on regeneration of organs, protein nomenclature, and heart block among other subjects of practical importance. General pathology occupies the largest part of the book and contains a considerable number of references to recent research in regard to methods of diagnosis, the examination of the blood, the rôle of the spirochæta pallida in the genesis of the lesions of syphilis, and abstracts of other papers devoted to general or special pathology. A number of papers dealing with bacteriology are referred to in a separate subsection which is liberally illustrated by many good plates of spirochætæ of various kinds. The formation of antibodies and the use of antitoxic and antibacterial serums are also discussed. The book, though useful and representing a considerable amount of labour, is perhaps hardly representative of the year's advance, since there is a large preponderance of papers published in American journals or transactions. In the dictionary of new words appended to this volume in addition to words of recent origin a number of words of older standing are included. The proof-reading has evidently been very inadequately done as there are many misprints in the book. The scheme of the work is a good one and doubtless subsequent issues will improve in character and usefulness.

Les Taches de Koplik, leur Importance pour le Diagnostic et la Prophylaxie de la Rougeole. (Koplik's Spots, their Importance for the Diagnosis and Prophylaxis of Measles.) Par ANDRÉ BING, Docteur en Médecine, Licencié-es-Sciences. With one plate in colour. Paris: G. Jacques. 1905. Pp. 194.

ALTHOUGH it is more than ten years since the sign which bears his name was first described by Koplik, and in spite of the value which many observers in different countries have shown this sign to possess in regard to the early diagnosis and prophylaxis of measles, it has hitherto attracted very little attention in France and has been there regarded as of rare occurrence or of little value. The reason for this, according to Dr. Bing, are that the exact character of the spots have been overlooked and that they have not been distinguished from other buccal conditions superficially resembling them.

In the book before us he presents an exhaustive historical, clinical, and practical study of the condition which is both interesting and useful. The sign was described by Dr. Henry Koplik of New York in the *Archives of Pediatrics* for December, 1896, but many claims for priority of description have been made since the clinical value of the sign, so strenuously maintained by Koplik, has been generally established. All these claims Dr. Bing has carefully studied and he concludes that the most that can be said is "that it is not impossible that Flindt in 1878 and Filatow in 1895 had already seen the sign" and possibly also Bielski in 1890, but in any case he maintains that all the credit of the sign is due to the observer whose name it now bears.

In its typical and characteristic form Koplik's sign consists of a macule and a papule: the macule is a rose spot of irregular, star-like, or rounded outline; the whitish blue papule forms the central point of it and is alone the characteristic and pathognomonic constituent of the spot. It is usually only just large enough to be visible and never exceeds a diameter of one millimetre, consequently the statements often made that this central spot is from two to five or more millimetres in diameter show that other buccal eruptions are frequently mistaken for it. This papule projects slightly and can be felt with the finger; it is associated with a slightly rough or lustreless appearance ("*aspect dépoli*") of the mucous membrane, which is often of great value, since it appears quite early and persists after the actual spots have disappeared. The number of spots varies within very wide limits, being in some cases only one and in others several hundreds. After a time the rose spots tend to run together and coalesce but the white centres maintain their individuality. They are found only upon the mucous membrane of the lips and cheeks, and not, as some few authors have described, upon the gums, the soft palate, and the tongue. Dr. Bing maintains that such spots are the erythemato-pultaceous stomatitis described by Comby and not Koplik's spots; moreover, small punctiform vesicles occur upon the palate in a variety of conditions, including rubeola, scarlet fever, and influenza, as described by Koplik himself. The buccal eruption appears to go through a definite cycle which may take from two to six days to accomplish, but the disappearance is more or less abrupt since the small white spots become easily detachable and are removed by the buccal secretions, while ulceration never occurs. The diagnosis and the nature of the sign are carefully described and exhaustively discussed by Dr. Bing who then details his own observations. He concludes that the sign is pathognomonic of measles but that its absence does not prove that the patient is not suffering from that disease. With regard to the time of its appearance, he finds that it may appear from one to five days before the eruption but most often two days before; it reaches its maximum on the day on which the rash first appears on the face, commences to disappear on the full efflorescence of the rash, and does so completely from the second to the fifth day of the eruptive stage. He further considers the value of the sign in diagnosis and after an exhaustive study of the conditions likely to be mistaken for measles arrives at the conclusions that it is a sign of the utmost value and that in every case of illness in a child it should be sought, since it enables isolation to be carried out sooner than would be possible otherwise. The character of the spots has no bearing upon prognosis or on the severity of the attack. Dr. Bing's book concludes with a bibliography of 234 references and is a valuable study of the condition which we can cordially commend.

Atlas and Text-Book of Human Anatomy. Vol. II. By Professor J. SOBOTTA of Würzburg. Edited, with additions, by J. PLAYFAIR MCMURRICH, A.M., Ph.D., Professor of Anatomy at the University of Michigan. Quarto, pp. 194. London and Philadelphia: W. B. Saunders Company. 1906. Price 25*s.* net.

THE second volume of this Atlas and Text-Book of Human Anatomy is the immediate continuation of the first and treats of the viscera and the heart. Professor Sobotta has considered it advisable to include the heart with the viscera since it is usually dissected in common with them and consequently this arrangement makes the atlas more convenient

for the use of the student. The selection and mode of reproduction of the dissections are identical with those employed in the first volume—viz., multicoloured lithography, autotype (partly multicoloured), and the three-colour process. As might be expected in a work of this nature the illustrations are the most striking features and, without exception, all of them are accurate and most beautifully executed.

The digestive system is liberally dealt with in Section I. and the arrangement of the viscera according to their developmental origin should prove of great use to the student. Commencing with the oral cavity, of which there are some beautiful illustrations, the author then passes on to a description of the foregut, midgut, and hindgut. Under the last heading we notice that the portion of bowel between the termination of the sigmoid colon and the anus is simply called the rectum. Surely the modern anatomist would be justified in disagreeing with this form of nomenclature. This section also contains some very clear and instructive illustrations of the development and arrangement of the peritoneum which are well worth attention.

The second section is devoted to the respiratory system and contains many beautiful and striking drawings. The illustrations of the larynx are particularly good and their value is much enhanced by the colouring of the intrinsic and extrinsic muscles. The usual transverse and vertical sections of the thorax are given but by some oversight the numbers of the vertebræ through which the sections pass are omitted on the plates though referred to in the text. The genito-urinary system receives its full share of attention in the third section and here again the illustrations are beyond reproach. The main facts necessary for the proper understanding of the development of the uro-genital apparatus are emphasised and subsequently the various organs are fully described together with the perineal muscles and fascia. An excellent description of the heart and pericardium is given in the last chapter.

The book, besides being well bound, is printed on good paper and as a descriptive atlas leaves nothing to be desired.

Lehrbuch der Ohrenheilkunde für Aerzte und Studierende. (*Handbook of Otology for Physicians and Students.*) In 32 Lectures. By Dr. FRIEDRICH BEZOLD, Professor of Otology at the University of Munich. With 75 figures in the text and one table of diagrams of the tympanum. Wiesbaden: J. F. Bergmann. 1906. Pp. 346. Price 9 marks, or 9*s.*

A WORK from the pen of so renowned an otologist as Professor Bezold deserves most careful attention, for he is one of those who have striven hard to unravel the knotty questions of otology and to throw light so far as possible upon its intricate problems. The most striking feature of this book is the fact that in dealing with non-suppurative conditions of the middle ear Professor Bezold confines himself to a small number of headings of a somewhat unusual nomenclature. He speaks of obstruction of the Eustachian tube and its effects on the ear, giving to this subject only 11 pages, with three pages on simple otitis media chronica and dysacusis. He later describes otosclerosis, to which he devotes eight pages. Now this brevity alone may be somewhat surprising to those who on first taking up the book are immediately confronted with the question as to why the author has dealt so shortly with these conditions which between them include at least 60 per cent. of the cases of aural disease and entail a great amount of suffering on those afflicted by them. It is not that Professor Bezold, with all his great experience, does not feel himself able to be more explicit and more minute, but that the majority of otologists are striving to split hairs and to make subdivisions where none exist. This answer will, we think, strongly commend itself to those who earnestly seek a really rational nomenclature and subdivision of non-suppurative disease of the middle-ear. For there has been, it must be admitted, too great a tendency on the part of otologists to follow blindly in the beaten track and this must largely be due to the important rôle played by the Vienna school in otological education. The chapter on Acute Inflammation of the Middle Ear in Professor Bezold's work has, we think, an important bearing on the foregoing subject. Amongst the more important chapters in the book may be mentioned Chapter VIII. on the Tone Testing of Hearing. This should be read with great care, as embodying the views of perhaps the chief living exponent in these matters. Another very interesting portion is that on otomycosis. All the various parts of the work which are devoted to suppurative diseases are exceptionally interesting and of the very greatest merit. But the chapter which deserves the most careful reading is perhaps that on otosclerosis.

Professor Bezold's work is one which must almost of necessity be in the possession of every otologist, for although it is written as a text-book it contains so much valuable and instructive information that it is also a useful work of reference and we earnestly recommend its careful perusal to those who are interested in otology.

LIBRARY TABLE.

Invalid and Convalescent Cookery. By MARY E. BIRT. Bristol: John Wright and Co. 1907. Pp. 23. Price 6*d.*—This little work will be found very useful. It gives a number of recipes for various delicate dishes. They, however, have the fault, which is obvious in so many cookery-books, of not being clearly expressed, and as cookery-books are of most use to the ignorant this is a mistake. For instance, in the recipe for bread sauce the author says that there should be taken an onion, a pinch of salt, and one or two peppercorns. This, of course, is quite right and will give the sauce a nice flavour, but then Miss Birt goes on to say that "cooks like to put in spice ..... but for invalids the sauce is better quite plain." It cannot be said that a sauce with onion and peppercorns is quite plain. We turn, as we always do in a cookery-book, to the recipe for custard pudding, and we find the following: "Beat up the yelk of an egg into a coffee-cup of milk, then add the white. Put into a well-buttered basin and steam 20 minutes." We are quite certain that this pudding made in this way would be simply abominable. If made according to directions there would be a lump of coagulated white of egg in the middle of the egg yelk and milk and the pudding would be greasy on the outside from the butter. A much better recipe would be to take half the white, to beat that with the yelk and both with the milk, to put the result into an ordinary jam-pot, and to bake the mixture in a very slow oven till it is just firmly set. Again, in the recipe for canary pudding Miss Birt says: "The weight of an egg in flour, butter, and sugar; soften the butter and mix it thoroughly all together; put into a buttered mould and boil two hours or longer." Does she, or does she not, mean that the egg is to be added to the other ingredients, for the recipe is quite uncertain on the point? And, further, what is "it"? We have pointed out these slips with no wish to find fault. Miss Birt has written an admirable little book on the whole and in the next edition we hope that she will take the opportunity of making any changes that are needful to render her meaning perfectly clear.

The Treatment of Diseases of the Digestive System. By ROBERT SAUNDBY, M.D. Edin., M.Sc. Birm., LL.D., F.R.C.P. Lond., Professor of Medicine in the University of Birmingham. London: Charles Griffin and Co., Limited. 1906. Pp. 133. Price 3*s.* net.—This little book is based on the author's experience and "is offered as a foundation upon

which each reader may raise a more imposing superstructure." The introduction extends to one-third of the volume and a great deal that is valuable in the treatment of digestive disorders is considered in it. For the determination of the size and position of the stomach Dr. Saundby recommends larger powders than those often employed. We observe that arsenic is not to be found among the drugs recommended in the treatment of gastralgia. The section on the Indications for Operative Interference in Diseases of the Stomach will be a useful guide to the practitioner and will help him to give sound advice to his patients. The book is well and clearly written and is a practical guide to the subject of which it treats, the text being followed by a list of very useful formulæ. It is published at a moderate price.

The World's Classics. Vol. cxii., Edmund Burke's Writings and Speeches (vol. iv.), with an introduction by F. W. RAFFETY; vol. cxxiv., The Works of William Hazlitt (vol. v.) Lectures on the English Comic Writers, with an introduction by R. BRIMLEY JOHNSON; vols. cxxv. and cxxvi., The Works of Thomas Carlyle (vols. iii. and iv.), The French Revolution; vol. cxxxiii., Palgrave's Golden Treasury with Additional Poems. Henry Frowde, Oxford University Press. Price 1*s.* each net, bound in cloth, and in other bindings up to 5*s.* 6*d.* each net.—It was just over a month from the present time of writing that we reviewed a batch of these cheap and handy volumes, and now another five lie before us. If their rate of production is an index of the public demand for them we rejoice that the provision of such excellent literature at a merely nominal price may well be checking the inordinate consumption of worthless and ephemeral printed matter that bids fair to sap the spring of national taste in letters. Three of the present volumes deal with the French Revolution, two of them containing the immortal prose epic of Carlyle, which to praise now would be indeed to gild refined gold, and the third the more neglected writings of Edmund Burke on the first phase of that stupendous national drama. These are "Reflections on the Revolution in France, 1790," "A Letter to a Member of the National Assembly, 1791," and "Thoughts on French Affairs, 1791," of which we can say no more terse and accurate thing than is written in Mr. Raffety's preface to this edition: that although in this cause the verdict of history is against his reactionary pleading yet readers of it are forced to feel with Hazlitt that in arriving at one error he discovered a hundred truths. The lectures of this latter essayist on The English Comic Writers form the next volume; they cover a large number of the English classical authors, including, *mirabile dictu*, Dr. Johnson. They display a very keen and correct analytical faculty, but in reading them it is hard to repress a comparison with the contemporary critical work of Lamb, a contrast entirely in favour of the sweet and great-hearted nature that glows in every page of "Elia." "The Golden Treasury" of Palgrave, with additional poems, is the last book of this batch. It is late in the day to express our regard for an anthology which has formed the basis of nearly all subsequent collections of English general poetry—an anthology that spun a chain of gold from Shakespeare and Drayton to Shelley and Wordsworth. But we are inclined to cavil at the policy of binding up more recent poetry with this volume. The poems added are not the collection in the "Golden Treasury" second series, and we should have preferred to see an original nineteenth century anthology issued in a separate volume by the present publishers. The poems as they stand are not adequately representative; thus although they include such gems as a dozen of Tennyson's songs, "A Grammarian's Funeral," "Porphyria's Lover," "The Chambered Nautilus," "The Blessed Damsel," Henley's "Invictus," and several poems of Matthew Arnold, the last-named is not represented by "The Scholar Gipsy," "The Forsaken Merman," or "Rugby Chapel," and although the first version of Fitzgerald's "Omar" is included, and, later, there are several of Kingsley's poems, there is no line of Swinburne—a truly surprising omission.

JOURNALS AND MAGAZINES.

Folia Therapeutica.—The second number, dated April, 1907, of this quarterly of modern therapeutics and pharmacology fulfils the promise of its predecessor. An introductory Berlin letter from Professor C. A. Ewald gives a *résumé* of Ehrlich's recent researches on the lethal action of various aniline dyes on trypanosomes. Sir James Sawyer in a paper on "Fuming Inhalations in Asthma" pleads for the replacement of quack preparations of this nature by properly prescribed powders and gives several formulæ which he has found useful in dealing with spasmodic bronchial attacks. The longest article is a clinical lecture by Professor H. Senator of Berlin, "On the Causes and Treatment of Arterio-sclerosis," in which he advocates the "lacto-vegetarian" diet, and for drugs the iodides and nitrites in combination. He refers to the method of treatment by solutions of salts in quantities closely imitating those of the blood serum but does not speak positively on their value; he recommends giving the iodine as iodipin, and the use of this preparation in tertiary syphilis is the subject of the following article by Dr. G. G. S. Taylor and Dr. R. W. Mackenna of Liverpool, who speak highly of its efficacy in skin syphilides when given in full doses by the mouth. Dr. Arnold J. Edwards writes on Recent Therapeutical Advances in the Treatment of Gonorrhœa in the Male and advocates the local use of protargol. A contribution by Dr. V. Schnieden on the Theory and Application of the Hyperæmia Treatment of Bier might with advantage have been a good deal fuller as it deals with a subject of growing importance and one which deserves the general attention of the medical profession; it has a wide field of application and is easily put into practice. Dr. Schnieden advises the study of Bier's own book on the subject. Dr. Frank H. Barendt recommends eugallol, *inter alia*, in the treatment of psoriasis. Dr. Karl A. Grossmann has a paper on Dionine in Ophthalmic Practice. He has found this remedy valuable in various forms of keratitis, conjunctivitis, and other diseases. The last paper is a short note by Professor L. Brieger of Berlin on the Hydrotherapeutic Treatment of a few Constitutional Diseases, and the folia end with abstracts from various articles on therapeutics, amongst which is a laudatory notice of Kuhn's suction-mask for the production of passive hyperæmia of the lungs.

Annals of Tropical Medicine and Parasitology. Vol. I. No. 1. Liverpool School of Tropical Medicine.—Hitherto the work done in the Liverpool School of Tropical Medicine has been published in the form of memoirs, of which 21 have been issued. This has naturally limited the matter to the work done by the members of the staff and it was apparently felt that a journal in which work from other sources might be published would be more generally useful. It is for this reason that the "Annals of Tropical Medicine and Parasitology" has been instituted, the editors of which state that they are prepared to consider contributions from outside the school. This is a step in the right direction and will tend to facilitate the spread of knowledge with regard to the most recent work in the subjects dealt with. The first number of the annals consists largely of morphological descriptions of various insects and other arthropoda collected in the Congo Free State during the expedition of the Liverpool School of Tropical Medicine to the Congo in 1903–05. Medical men on the West Coast or in the neighbourhood of the Congo will find the observations and map of the distribution of various species of tsetse

flies and other insects and ticks of considerable use. There are a contribution on a case of Distomiasis of the Liver and Rectum by Dr. Edward Cuffey and Some Observations on the Presence of *Spirochæta Duttoni* in the Ova of *Ornithodorus Moubata* by Captain R. Markham Carter, I.M.S. A short note at the end of the number states that some good results have been obtained in trypanosomiasis by following the treatment with atoxyl, discovered by Thomas and Breinl, with small doses of bichloride of mercury. The communication is made in the hope of inducing those who have opportunities of treating patients to give this method a trial.

The West London Medical Journal.—The April number of this journal contains an interesting article by Dr. F. G. Crookshank on the Prognosis and Treatment of Diphtheria. Among other advice we may note the counsel not to wait for the result of a bacteriological examination in a doubtful case but to give antitoxin at once, to avoid meat juices and essences out of tins and bottles, and to adopt tracheotomy rather than intubation in private cases. Mr. Stephen Paget writes on throat and nose cases in general practice, noting "that people nowadays of all classes, rich and poor alike, think and worry more over their noses than they did twenty years ago." Mr. John R. Lunn records a case of retroversion of a gravid uterus which simulated extra-uterine pregnancy.

The Birmingham Medical Review.—In the March number a paper on the Selection of Cases of Pulmonary Tuberculosis for Sanatorium Treatment, by Dr. J. Douglas Stanley, deals chiefly with the difficulties of early diagnosis; the author does not appear to hold that much assistance is to be expected in this from the use of x-rays. This issue contains also the conclusion of Mr. W. Edward Bennett's article on Results of Operation for Congenital Dislocation of the Hip, and a useful paper by Mr. William Billington on After-Treatment of Cases of Abdominal Section; the use of calomel is advised for intestinal distension, and good results are recorded from continuous irrigation of the rectum combined with drainage of the peritoneal cavity by a tube placed in the recto-vesical pouch, the peritoneum thus possibly becoming an excreting instead of an absorbing structure.

ASYLUM REPORTS.

St. Andrew's Hospital for Mental Diseases, Northampton (Report for the Year 1906).—During the year 1906 there were 91 admissions (35 males and 56 females), which is 13 more than in 1905. The average number resident was 410 (185 males and 225 females), being the same as that of the previous year. The discharges numbered 61 (18 males and 43 females), and of these 22 (seven males and 15 females) were discharged recovered, 11 (four males and seven females) relieved, and 28 (seven males and 21 females) "not improved." Touching on the subject of "recoveries," the committee of management states: "There has been a decrease of 24 in the number of recoveries. This is accounted for chiefly by the fact that every year the hospital gets more crowded with incurable cases, and steps are being now taken to remedy this by discharging from time to time incurable cases to make room for those who may derive some benefit from treatment, as suggested by the Commissioners in Lunacy in a former report." The percentage of recoveries on the total number of admissions during the year has been 20·0 for males and 26·28 for females, giving a total of 24·17, which is very low for an institution of this importance. 20 deaths (12 males and eight females) occurred during the year, and five of these (males) were cases of general paralysis. The numbers remaining on the books of the hospital on Dec. 31st, 1906, were 187 males and 225 females, making a total of 412. This number includes one voluntary boarder. This paucity of voluntary boarders would seem to indicate that patients are not encouraged to enter the hospital in this capacity. Mr. J. Bayley reports that there were no cases of infectious disease, serious accident, or suicide during the year. No balance-sheet is published with the report, but the committee of management states that the financial state of the hospital during the year has been very satisfactory—the income from patients being the largest since the institution was founded. The committee also states that during 1906 the number of patients who were assisted in their payments has been 77, of whom 36 belonged to the county of Northampton and 41 were out-county cases. The amount of assistance rendered to make up the payments to the lowest rates ordinarily charged was: county cases, £1944; and out-county cases, £1290; being £134 less than the previous year. The result of the working of the farm at Moulton Park for the past year has been most satisfactory, there being a favourable balance at the end of the year of £692.

Looking Back.

FROM

THE LANCET, *FRIDAY*, May 15th, 1829.[1]

ON THE USE OF TINCTURE OF HYOSCIAMUS, IN SCARLET FEVER.

By HENRY REES, *Esq.*, M.R.C.S.

HAVING read, in the last Number of THE LANCET,[2] Hufeland's observations on the use of belladonna in scarlet fever, I am induced to recommend to the notice of the profession a medicine which I have found highly serviceable in the same disease, and which may probably operate on the same principle—I mean the tincture of hyoscyamus. As surgeon to the "City Institution for Diseases of Children," I have had between two and three hundred cases of scarlet fever under my care, few of which have proved fatal. If not trespassing too much on your valuable pages, I will briefly describe the practice I pursue. In milder cases, I recommend leeches to be occasionally applied to the head, prescribe small and repeated doses of calomel and antimony, with gentle laxatives, (a mode of treatment proper in all exanthematous diseases,) and every two or three hours some of the liq. ammon. acetat. mixture, with small doses of ipecacuanha, and the t. hyoscyami. In severer cases, I apply leeches freely and frequently to the head and throat, administering the same medicines. My attention is chiefly directed to allaying the nervous irritability and excitement, for in proportion to such irritability and excitement, are the subsequent exhaustion and degree of danger. Opium is, in some cases, a valuable medicine. The prussic acid I have never tried, but should anticipate much good from its effects. Cold ablution is proper, especially when agreeable to the sensations of the patient. I prefer partial to general ablution, having seen two or three instances, and heard of others, in which fatal symptoms appear to have arisen from the excessive chill the system had sustained. As a stimulant in the stage of collapse, if I may be allowed the term, I find ammonia most useful.

The effect of medicines, the progress of the disease, and the appropriate measures, are indicated by the appearances of the tongue; should the tongue continue unchangeably parched, the disease will terminate fatally; immediately it *begins* to be moist, the calomel and antimony should be omitted, or salivation will be induced. In scarlet fever, as in all other diseases in which the tongue is dry and red, Epsom salts are injurious, though frequently prescribed; so are also the drastic purgatives, and, what are sometimes named, the "tonic-evacuants." The tongue, indeed, in most diseases, is my principal guide. On this subject I could say much, were I not fearful of extending these remarks to too great length.

45, Finsbury Square, May 4, 1829.

[1] It will be noticed that this particular number of THE LANCET is dated Friday, May 15th, 1829, instead of Saturday, May 16th, 1829. We are at a loss to decide whether this was accidental or intentional but it may have been caused by the desire of the Editor to place in the hands of his readers that morning an accurate copy of the "Unlawful Disinterment and School of Anatomy Bill," the consideration of which had been postponed after repeated delays to that evening. The style of dating was not repeated in subsequent numbers so far as we have checked them.

[2] Vide "Looking Back" in THE LANCET, May 4, 1907.

THE LANCET.

LONDON: SATURDAY, MAY 18, 1907.

The Royal Commission on Vivisection.

THE Royal Commission on Vivisection has issued its second report consisting of the minutes of the evidence taken during the months of February and March, 1907. The following are the names of the witnesses whose evidence is contained in the minutes:—Mr. W. H. POWER, C.B., F.R.S., principal medical officer to the Local Government Board, representing the Local Government Board; Dr. A. R. CUSHNY, F.R.S., professor of pharmacology and materia medica in University College, London, representing the committee of medical and scientific societies; Lord RAYLEIGH, O.M., President of the Royal Society, and Sir R. DOUGLAS POWELL, Bart., K.C.V.O., President of the Royal College of Physicians of London, representing their respective bodies; Dr. FREDERICK TAYLOR, senior physician to Guy's Hospital; and Mr. J. W. GRAHAM, principal of Dalton Hall, Victoria University, Manchester, and Miss A. KENEALY, L.R.C.P. Irel., representing the Parliamentary Association for the Abolition of Vivisection.

The evidence contained in this report may be read with much satisfaction by fair-minded and humane persons. They will be well satisfied, we think, that the safeguards which in this country are erected against needless infliction of pain on lower animals are both sufficient and efficient. The evidence given, for example, by Mr. POWER, which demonstrates exactly the position of the Local Government Board in the matter of vivisection, shows indubitably the necessity for animal experiments in the public interest, while bringing out the fact that such experiment in the case of investigations required by the Local Government Board consisted of nothing more formidable than a prick in something like 98 per cent. of the cases. The principal medical officer of the Local Government Board quoted an explanatory minute from the pen of the late Sir JOHN SIMON and showed that in order to increase our power to prevent various diseases of men and of domestic animals a first aim is to obtain exact scientific knowledge of the causes and of the mode of attack of the diseases in question. In this sort of study more or less experiment may be necessary to determine the results which the administration of a particular reagent will produce upon an animal. Moreover, in aid of preventive medicine, and often in aid of therapeutics, experiments on animals are needed to test the value of alleged prophylactics and remedies as against known causes or processes of disease. Sometimes, as in the case of Asiatic cholera, such experiments are more immediately in the interest of man, sometimes, as in the cases of sheep-pox and cattle plague, they are more in the interest of domestic animals. Sir JOHN SIMON stated that while no doubt pain or uneasiness will afterwards arise in cases where disease is the result of experiment, yet the experiment would often require that the animal should be killed as soon as disease became manifest and, "of course, no animal would needlessly be let live in a state of suffering." The memorandum of its first medical officer is still adhered to by the Board. The Local Government Board sends to each experimental worker on each occasion of his engagement by the Board to do a piece of work a note drawing his attention to the fact that no experiments on living animals are to be conducted at the cost of the State without the employment of anæsthetics in the case of painful operations nor without a report from time to time explaining the object of such experiments and showing their necessity for the purpose of discovery. The men who perform these experiments are, of course, certificated workers under the supervision of the Home Office and at any time their procedure may be inspected. The questions directed to Mr. POWER brought out in answer an account of work done in connexion with the prevention or cure of diphtheria, cholera, plague, and typhoid fever in particular. They showed, further, that through her international obligations with regard to the entry of disease by ships England is bound to employ experimental investigation to insure prompt and certain detection of infectious diseases. In the same way inoculation experiments often become essential for the local investigation by medical inspectors of the Board of conditions under which disease exceptionally prevails, as, for instance, at the present time in the case of cerebro-spinal meningitis. The substantial benefits with regard to curative treatment of disease that may be obtained from experimental work are shown better perhaps in the case of diphtheria than of any other disorder. The facts of the case before and after the introduction of antitoxin are clearly stated by Mr. POWER and became the more convincing the more they were scrutinised by his interrogators. In the hospitals of the Metropolitan Asylums Board the case mortality has been reduced from a rate of 40 to one of 12 per cent., and Mr. POWER was able to uphold the validity of these figures and to show that no extraneous circumstance interferes with the favourable light which they throw upon the value of diphtheria antitoxin. The evidence of Dr. CUSHNY was directed to an explanation of the influence which experimental methods in pharmacology have exercised upon therapeutics, and similarly is of great public interest. The case of digitalis was one of the most striking which he cited in support of his view of the value of experiment. This drug was formerly supposed to have a slowing and weakening action upon the heart and was in use for such conditions as aneurysm. It was the experimental work of TRAUBE and LAUDER BRUNTON which demonstrated the real action of digitalis and saved many scores of patients from the baleful results of its use under false premisses. The introduction into practice of chloral, purely the result of LIEBREICH'S experimental work, was another instance quoted by Dr. CUSHNY to show the value to therapeutics of such investigations, and he dealt also with other important members of the soporific class of drugs and with the modern antipyretics.

The opinion of the medical profession generally upon the question of vivisection was represented by Sir RICHARD

DOUGLAS POWELL and Dr. TAYLOR. In their memorandum the work of LISTER and of PASTEUR and its enormous beneficial influence was commented upon, and particular instances were related in which bacteriological investigation has led to the improved treatment of disease. The nature and treatment of cretinism and myxœdema were also cited as valuable discoveries directly resulting from experimentation upon animals. Apart from the hard logic of facts which these witnesses brought to bear upon the question of vivisection, the concluding words of Sir RICHARD DOUGLAS POWELL'S evidence might be read with great advantage by those people who, carried away by sympathy with the dumb animal, overlook the sufferings of their fellow creatures. It is hard for them to realise, the President of the Royal College of Physicians showed, the intense longing for greater power over disease which possesses the medical man whose hours, whose days, and whose weeks are spent in the observation of suffering with which he is often able but partially to cope; to see, perhaps, a beloved child dying day by day, and to witness the harrowing distress of mind of the parents, is to feel that for the prevention of such misery as that even a hundred dogs might be sacrificed without blame. It is but just that the influence of sentiment should be evoked on one side when it plays so large a part upon the other. The anti-vivisectionist relies, as any calm perusal of the evidence given by Miss KENEALY and Mr. GRAHAM will determine, to no small extent upon purely sentimental considerations. Such considerations we are far from belittling, and we would have it recognised that in this matter true sentiment has as much argument to proffer in favour of, as against, the practice of careful experiment upon living animals. It is the biased sentiment that we deprecate which misrepresents facts, which maligns honest observers because they are scientific, and which ignores advantages because they are reached by the hated means. We sympathise, as we believe every man of science sympathises, with the humane affections which underlie the words and the actions of the anti-vivisectionist, but we appeal to him not to let the promptings of a kind heart lead to the indications of a weak head. Let him show not merely that he can sympathise with animals, but also that he can understand and appreciate the arguments of men when they demonstrate the widely beneficial influences of properly controlled experimentation upon living creatures.

The Registrar-General's Annual Summary.

THE Registrar-General's Annual Summary of Births, Deaths, and Causes of Death for 1906 has made its appearance this week, and we wish to congratulate the office upon its promptitude. We notice in the summary considerable improvements on the issues of previous years and to these we desire briefly to direct the attention of our readers. In submitting to the President of the Local Government Board the fifty-third issue of this summary the Registrar-General takes occasion to give an account of the scope and growth of the publication, and, incidentally, of the origin of vital statistics in London and other large towns. The earliest records which we possess of London mortality appear, according to Captain GRAUNT, to have begun towards the end of the sixteenth century. We learn, on the authority of Dr. WILLIAM OGLE, that these records, originally styled "The London Bills of Mortality," were compiled through the agency of the Company of Parish Clerks, and, as the main object was to give information concerning the progress of the plague which at that time was prevalent in London, this publication was discontinued with the cessation of that disease. From the beginning of the seventeenth down to the middle of the nineteenth century the old bills of mortality were published regularly, but in 1849 the bills of the old parish clerks came to an end, having been superseded in 1840 by the new bills published under the authority of the Registrar-General, which had relation to a much more extended area.

The first of the long series of annual summaries issued from the General Register Office during the last 52 years consisted of a pamphlet of only eight pages, which was issued by Major GRAHAM, the first Registrar-General, in the year 1855. Ten years after the first issue—viz., in 1865—particulars of births and deaths were added for seven large English towns, as well as for Edinburgh, Glasgow, and Dublin. The vital statistics of Vienna were also included for the first time in the annual summary for that year. In 1872 the list was extended so as to include 67 provincial towns and 11 foreign cities; and ten years later it was further extended to 78 towns and 30 foreign cities; while the present issue relates to London and to no fewer than 217 provincial towns and 36 colonial or foreign cities. So much for the expansion of the summary from a pamphlet of eight pages in 1855 to one of 76 pages with an excellent chart and complementary tables in 1906. But Sir WILLIAM DUNBAR tells us in his preface that the recent development of the science of vital statistics has necessitated a revision of the methods of calculation that passed muster in earlier years. Thus, we learn that for the present summary not only have the simple ratios of births, deaths, and marriages been presented in terms of the living at all ages but special estimates of particular sections of the population have been made for the purpose of expressing marriage-rates in proportion to the number of marriageable persons in the community, birth-rates in proportion to the number of women of child-bearing ages, and death-rates based on a standard population of the same age and sex constitution as that of the country generally. Having regard to the great and increasing public interest now shown in the important question of infantile mortality, the subject has been considered in reference to climatic conditions and an endeavour has been made to differentiate the deaths due to antenatal influences. Lastly, and to this point we attach considerable importance, the Registrar-General tells us that in order to furnish the earliest available information concerning mortality the data, as returned by the registrars, are now published in the annual summary; and although the details may require revision and some modification before their final presentation in the annual report, nevertheless in their provisional form they are now available to the public nine months earlier than in former years.

Turning to the vital statistics of 1906 we find that the marriage-rate of England and Wales in that year, although

slightly above that of the preceding year, was nevertheless in defect of the average rate in the ten years 1896-1905. The rate of birth was the lowest on record; it was below the rate of the previous year by 2 per 10,000 living, and was below the decennial average rate by 17 per 10,000. The death-rate, although higher than that of 1905 by 2 per 10,000, was nevertheless below the average in the preceding ten years by 14 per 10,000 of the population. Infantile mortality, measured by the proportion of deaths under one year to registered births, was 133 per 1000, which is 5 per 1000 above the rate of the preceding year, but as compared with the average in the preceding decennium the rate of 1906 showed a decrease of 14 per 1000 births.

Mediterranean or Malta Fever.

DURING the last quarter of a century few if any of the departments of medicine have attained greater triumphs than that dealing with tropical diseases, for in this period we have witnessed discoveries in the etiology of these diseases in which men of science from nearly every country have had their share. We need only mention the famous researches of Professor KOCH on cholera and the valuable and life-saving facts resulting from the discoveries of LAVERAN, MANSON, and ROSS in malaria. Light has been thrown upon the causation of yellow fever by our professional brethren in America, while at last the pathology of sleeping sickness has been demonstrated by the Schools of Tropical Medicine of London and Liverpool. That curious disease, kala-azar, has been the subject of three separate Commissions appointed by the Government of India and its etiology seems to have been determined; and now the question of the causation of Mediterranean fever has been settled by the researches of a Commission appointed by the Royal Society.

Mediterranean or Malta fever has for a long time been a subject of discussion in medical science. The disease was first of all described by Dr. WOODWARD; his account was based on his experience whilst serving in the Federal army of the Potomac in 1861, and he considered it to be a hybrid affection—a combination of malaria and typhoid fever. Next BORELLI of Naples and AITKEN of Rome looked on it as a peculiar form of malarial fever, whilst DURAND-FARDEL of China and MOREL of French Guiana considered it to be only a severe form of malaria. In 1879 Surgeon-Major H. R. L. VEALE of the Army Medical Department named the disease "febris complicata" and held that it was a definite affection—one that is certainly not typhoid fever and as certainly not a malarial fever, or any modification of typhoid fever by malaria, or engrafting of the taint of malaria on typhoid fever, for the affection is one not yielding to quinine in the slightest degree: the access is insidious and its duration is extremely protracted (being of months rather than weeks and having been known to reach a period of two years); it is characterised now by deceptive convalescences and now by exacerbations, by profuse perspirations which give no relief, and by an extraordinary range of complications affecting all the systems of the body, especially the locomotor apparatus. The importance of this disease to England is evident from the fact that Malta is not only a winter resort and an important commercial centre but is also a naval station for a large fleet and a half-way house in which regiments are acclimatised before proceeding to India. It contains a permanent force of over 25,000 soldiers and sailors and may at any time become the seat of warlike operations, when every available man is of vital importance. All these troops must be exposed to this endemic fever and its lengthened duration causes an enormous yearly financial loss from non-effective pay and invaliding, whilst it may be said to be the most important and, next to venereal diseases, the most prevalent form of sickness affecting our Mediterranean forces. In other parts of the world the disease has been shown to exist and as affecting the British army we may note its appearance in India. The first step in the true elucidation of the disease was the discovery in 1887 of the specific micrococcus Melitensis by Colonel [DAVID BRUCE, C.B., R.A.M.C., and now, 20 years later, the concluding report (No. VII.) has been issued of the Commission which was appointed under the auspices of the Royal Society and which began its investigations at the commencement of June, 1904. These investigations have been crowned with success, for at length the facts regarding the causation of the disease have been demonstrated and the Commissioners have determined the paths by which the specific micrococci find their way out of the bodies of infected men or of infected animals. Examination of the breath, saliva, sweat, and scrapings from the skin yielded negative results, the discharges from the bowel are still in the doubtful category, while it was shown that the main paths are by milk and by the urine, and of these the first is the most important. In Malta a very large percentage of the goats are infected and their milk contains the specific micro-organism. The chain of arguments presented in the report is conclusive as to the part played by the Maltese goats in propagating the disease and this is strikingly confirmed by what has happened in Gibraltar. While Gibraltar Rock obtained its milk from goats supplied from Malta it was as liable to the fever as that island, but of recent years Maltese goats have not been allowed to enter Gibraltar and the fever is now non-existent in that station.

The Commission concludes its report with a series of valuable suggestions, and these, of course, will be put in force as regards our own garrison, but there is no such certainty with regard to the action of the native Maltese. It is to be feared that nothing will be done to purify their herds of this disease unless the utmost publicity is given to the fact that the ingestion of infected goat's milk, if not the only cause, is at any rate the main cause of the infection. We trust, therefore, that the native inhabitants of Malta will see the wisdom of setting their house in order in accordance with the facts led up to by the unremitting work of many competent observers and now established by the valuable researches of the Commission sent out under the auspices of the Royal Society.

WEST LONDON POST-GRADUATE COLLEGE.—The annual dinner of the Post-Graduate College and of the past and present members of the West London Hospital will be held at the Trocadéro Restaurant, Piccadilly-circus, on Wednesday, June 12th, at 7.30 P.M., Mr. Lloyd Williams in the chair. Any gentlemen who have worked at the Post-graduate College of the hospital will be welcome and tickets (7s. each) can be obtained on application to the honorary secretary of the dinner, Mr. L. A. Bidwell, 15, Upper Wimpole-street, W.

Annotations.

"Ne quid nimis."

THE PUBLIC HOUSE TRUST MOVEMENT.

THE English public has not unnaturally come to regard the word "Trust" as a synonym for commercial immorality and many people may turn in horror from the bare mention of such a title as "The Public House Trust Association," but the man who does so must needs be in complete ignorance of the good that this Trust may bring to the nation if it is able to expand properly its efforts in a cause which every friend of true temperance must have at heart. The sixth annual report of the Central Public House Trust Association lies before us and we desire to place prominently before our readers the excellent motives of this movement and the no less excellent results that it has already produced. The object is to promote temperance by removing from the retail sale of alcoholic beverages all element of private profit and the means adopted are the acquisition of public-houses in which managers are employed and paid a fixed salary, to which is added a commission on the sale of food and non-alcoholic beverages only; a prominent feature is that all articles of food and drink are of the most wholesome quality obtainable and the houses are made clean, comfortable, and orderly; in fact, they are to be transformed from mere drinking-shops into inns in the best sense of the word; some of the bigger houses, of which more than 230 are already under trust management, offer decent lodging accommodation and recreation-rooms for workmen, besides providing them with wholesome food and drink, and they have been eminently successful in increasing the sobriety in certain neighbourhoods. The means by which these houses are to be acquired are the formation of "a Public House Trust Company in each county under the direction of local gentlemen of public spirit. The maximum dividend payable to the shareholders is 5 per cent.; surplus profits are devoted to the benefit of the public and, where possible, to the provision of counter-attractions to the public-house. The trust companies rent or purchase existing public-houses and also, wherever the magistrates decide that it is necessary to create new licences, will apply for them on public grounds." The association has made rapid progress in six years and has now 38 incorporated trust companies in the British Isles. A memorial has recently been presented to the Prime Minister, signed by a very representative body of supporters, which includes many bishops, lords lieutenants of counties, members of both Houses of Parliament, chairmen of licensing sessions and other magistrates and mayors, appealing for the inclusion of the objects of the association in the Licensing Bill which is under the consideration of the Government. A statutory provision of trust companies would seem to be necessary for the full development of the scheme, for a perusal of this report shows that as private companies they have to make difficult headway against such strongly established interests as are vested in the "tied" system of public-house tenure which prevails almost exclusively in many counties.

THE DISPENSARY QUESTION AT COVENTRY.

TEN years ago the dispensary question at Coventry was an acute one, and we foretold in these columns that the relations of the Coventry Provident Dispensary with the medical staff of the institution would not be maintained long in view of better knowledge of the real meaning to the medical profession of the conditions of contract practice. In an article published in our issue of April 6th we mentioned that five out of seven of the medical men attached to the dispensary had sent in their resignations, that the resignations had been accepted, and that the medical men who were leaving the dispensary were starting a medical club to be managed on proper professional lines. The committee of the Provident Dispensary has issued a circular to the members of the dispensary in which it implies that under the new medical service, which certain of the seceding medical men propose to establish, the supply of drugs will be inferior to that of the dispensary. We quote the paragraph of the circular from the *Coventry Daily News*:—

> In the matter of drugs, it will be specially necessary for the members to deliberately consider to what extent they may be called upon to make sacrifices in withdrawing from the Dispensary. Under the rule as now established, the drugs are provided from a fund separate altogether from that from which the doctors receive their stipends, and, consequently, the drugs given, however expensive, make no difference to the amount received by the doctor prescribing them, but under the new system put forward to take the place of the Dispensary, every item saved will go into the pockets of the medical men constituting the new service. It will therefore be seen that if during any year a very large amount were saved upon drugs, which is quite possible, this would be a consideration which, under the circumstances, could not be overlooked. The members of the Dispensary may be absolutely certain that their committee will maintain their policy of seeing that whatever drugs are necessary will be provided without regard to expense. The institution has always enjoyed the highest reputation and the fullest confidence of the members for the excellence of the medicines supplied.

That it should be possible for the members of a managing committee to make such accusations against a group of professional men with whom they have recently been associated will be an additional reason to medical men for having nothing to do with the Coventry Provident Dispensary. The circular says also that "The committee have pleasure in informing the members that medical men with good qualifications have already placed their services at their disposal and they will at an early date notify the members of the arrangements made." We are making an inquiry on the spot and our commissioner's report of the position will appear shortly.

THE CITY AMBULANCE SERVICE.

BY kind permission of the Commissioner of Police for the City of London we have been enabled to inspect the first motor-ambulance provided by the City, which is at present accommodated within the precincts of St. Bartholomew's Hospital. Past experience has shown that when the City undertakes a public service it carries it out in the most efficient manner possible, and in this case it has adopted its usual wise course: the ambulance equipment which it has provided could hardly be made more perfect. It consists of a handsomely appointed vehicle, British built and fitted with an 8 h.p. electric power engine, the cells for driving it being charged from dynamos at the ambulance station. The wagon is fitted with two canvas stretchers, one above the other, which slide in and out on runners, the top one being supported on an ingeniously hinged bracket which permits of it being lowered to a convenient level for removal. On the other side of the car is a long locker seat for the attendant, which could, if necessary, accommodate a third patient. A lavish provision of first-aid requisites is made, including splints of all kinds, with spare paddings, dressings of gauze, lint, and wool, each done up separately in a hermetically sealed package, bandages of different materials, and some simple drugs and instruments; the aim has evidently been to supply anything that could be required by a medical man who might be summoned to a case, for the attendant constable, even though a holder of the St. John badge, as are all the City police, would hardly require to know the use of everything provided; in fact, no conceivable form of accident has been overlooked in the equipment. The car runs smoothly and is hung on comfortable springs; it has ground-glass windows and efficient ventilators, and its outside is enamelled white and blazoned with the City arms and the ambulance cross. In connexion

with the station are 52 "call posts" at different parts of the City, whence any constable can summon the ambulance as soon as an accident occurs; the call goes through to the Old Jewry head police office and is telephoned on to the ambulance. A constable with "first-aid" training accompanies the chauffeur and returns inside the car with the patient. The first accident attended on May 13th was in Queen Victoria-street and the car reached it, returned to St. Bartholomew's Hospital, and was in its garage again within 20 minutes. The service was inaugurated on that day by Sir Alfred Newton, the chairman of the City police committee, in the presence of a representative gathering of City officials and others interested in ambulance work. If this motor ambulance prove a success, as from the efficiency of its instalment there is every reason to hope, it is proposed shortly to add two more cars. The London public should greet with great satisfaction so excellent an attempt to meet a long-felt need.

DEATH OF DR. ROBERT BARNES.

WE much regret to announce the death of Dr. Robert Barnes, which occurred at his residence, Bernersmede, Eastbourne, on Sunday last, May 12th. As Dr. Barnes was only a few months short of 90 years of age his death can hardly be regarded as unexpected, although when it occurred it was sudden. The medical world has lost in him one of the most able and advanced exponents of the science and art of midwifery, and we personally have lost an old and valued friend. For many years Dr. Barnes was a member of our staff and those who have read his published works will not require to be told that his contributions to our columns were alike scholarly, clear, and vigorous. We shall publish an extended memoir in an early issue of THE LANCET.

WOMEN'S NATIONAL HEALTH ASSOCIATION OF IRELAND.

THE rapidly growing interest in the health of the nation has taken form in Ireland under the auspices of Her Excellency the Countess of Aberdeen, wife of the Viceroy, who has already done an incalculable service to the country by establishing the Irish Industries Association, of which she is President. The cause of fostering national industries cannot be more profitably served than by fostering a healthy race of people, and the objects of this new association are well calculated to secure that end. They are officially stated in these words:—

1. To arouse public opinion and especially that of the women in Ireland to a sense of responsibility regarding the public health. 2. To spread the knowledge of what may be done in every home, and by every householder, to guard against disease, and to eradicate it when it appears. 3. To promote the up-bringing of a healthy and vigorous race.

The problems proposed for consideration are those which so frequently find a place in our columns, such as tuberculosis, milk-supply, infant mortality, school hygiene, and inspection. Any woman resident in Ireland is invited to become a member and there is no compulsory subscription, although voluntary contributions are very naturally solicited. The methods of work suggested include: popular lectures by medical men and others and conferences on health subjects; simple health talks with small circles of working mothers; the appointment of women health officers, health visitors, and sanitary inspectors; the bringing before local and other authorities any sanitary requirements of the district and the promotion of public opinion in favour of the carrying out of such improvements; the compiling and general distribution of simple health leaflets and other health literature; the teaching of hygiene and of domestic science in every school; the appointment of district nurses in districts where such are not already working and the periodical inspection of school children by district nurses; and the creation of local dispensaries for special purposes where needed. At the inaugural meeting on March 13th a provisional committee was appointed of which the Countess of Aberdeen is President and honorary treasurer, and Mrs. Rushton, 58A, Rathmines-road, Dublin, has been appointed organising secretary. A memorandum has been published giving suggestions for forming local branches of the association and indicating means whereby the aims of the society can be advanced. We trust that the association will meet with success.

THE INHERITANCE OF INTELLECTUAL ABILITY.

ATTEMPTS have at various times been made to analyse the intricate conditions of heredity in mental qualities so as to express the results in some form suitable for tabulation. Mr. H. Havelock Ellis in 1904 published "A Study of British Genius," the data for which he culled from the volumes of the "Dictionary of National Biography." A more convenient source of statistical material has been utilised in a recent memoir[1] by Mr. Edgar Schuster, first Francis Galton Research Fellow in National Eugenics in the University of London, and Miss Ethel M. Elderton, Francis Galton Scholar in National Eugenics in the University of London. In this memoir the writers base their conclusions on the Oxford class lists (examinations for the B.A. degree) and the school lists of Harrow and Charterhouse. The Oxford material was derived from the later volumes of Foster's "Alumni Oxonienses" and its continuation "Oxford Men and their Colleges," and from the "Oxford Historical Register." The object of the research was to "measure the average resemblance between father and son" and may be briefly outlined as follows. It is known in a general sort of way that the sons of those fathers who are more intelligent than the average of fathers are themselves, on the whole, more intelligent than the average of sons. If, therefore, a group of fathers be considered, the intelligence of each of whom is the same definite amount A above the average intelligence of all fathers, the sons of this group will form a group whose average intelligence is a certain definite amount B above the intelligence of all the sons of all the fathers. If the ratio of B to A is unity, B is equal to A, which means that the sons of any particular group of fathers of given intelligence differ in intelligence from the average of all the sons by exactly the same amount as the intelligence of their fathers differed from the average intelligence of all the fathers. When the ratio of B to A is unity the resemblance between father and son is complete and perfect, and every intermediate value between 1 and 0 expresses a different degree of resemblance. The first step in the process of tabulation was to divide the men into three groups according to the years in which they took, or should have taken, their degrees, the limits of the three groups being as follows: 1800–30, 1830–60, and 1860–92. Taking the group 1860–92, and dealing only with those men whose fathers were educated at Oxford, it was found that the group consisted of 2459 persons who were arranged in six divisions, according as they had been placed in the first, second, third, or fourth class in the University lists, or had taken merely a pass degree, or had not taken a degree. Each of these six classes was sorted again according to the degree taken by the father. In this way it was found that of the fathers of the first-class honour men 36·2 per cent. obtained either first- or second-class honours themselves, while of the fathers of the second-class honour men only 32·2 per cent. obtained first- or second-class honours themselves, and of the fathers of the third-class honour men only 29·4 per cent. obtained first- or second-class honours themselves. In

[1] The Inheritance of Ability, published by Dulau and Co., 37, Soho-square, London, W., pp. 42, price 4s.

the group for the years 1860–92 the sequence of percentages for the fathers of the six classes of sons was 36·2, 32·2, 29·4, 24·7, 13·8, and 12·8. Similarly in the group for the years 1830–60, it was found that of the fathers of the first-class honour men 41·0 per cent. obtained either first- or second-class honours themselves, while of the fathers of the second-class honour men only 40·7 per cent. obtained either first- or second-class honours themselves; in this group the complete sequence of percentages for the fathers of the six classes of sons was 41·0, 40·7, 33·3, 28·1, 20·1, and 12·9. The Oxford records also enable the average resemblance between brother and brother, as well as between father and son, to be estimated numerically. The mean value obtained for the fraction expressing the degree of resemblance between father and son is 0·312, and that between brother and brother is 0·405. Before proceeding to discuss the results deduced from the data supplied by Harrow and Charterhouse schools—a discussion which considerations of space prevent us from touching upon—Mr. Schuster and Miss Elderton express the opinion that their investigations support the view that the physical and psychical characters in man are inherited with nearly the same intensity.

THE COST OF FLAVOUR.

PHYSIOLOGICAL chemists occasionally delight to tell us that we are the dupes of æsthetic senses and pleasing flavours. Men will pay, they say, half a guinea for a pint of turtle soup which, from a strictly nutritive point of view, is not worth a twentieth part of that sum. Oysters, we are told, are an extravagant form of food, since 14 of them do not contain as much nourishment as a single egg, while it would require the ingestion of no less than 200 good oysters before the protein equivalent of a pound of beef was reached. Caviare, again, is not to be compared with the bloater as regards its nutritive value; indeed, the latter "offers the largest amount of nutriment for a given sum of any animal food." It is evident if we regard these conclusions seriously that a large section of the human race is wickedly indulgent, caring more for the palatable than the nutritious quality of food. The same appears to be true in regard to beverages, and even in the case of cigars there is no difference, chemically speaking, between the penny Pickwick and the shilling Havana. The difference of 11*d.* is paid for flavour, and flavour alone. Physiologically, it is possible that a "brandy-and-soda" costing say 1*s.* is just as satisfactory as a "pint" of champagne at 5*s.* Similarly it may be said that a pint of beer at 6*d.* is quite as good, dietetically speaking, as a small bottle of Château Margeaux at 3*s.* 6*d.* There are, however, clearly instances in which in no sense can the nutritive equivalent of food and beverages be summed up in so many pounds, shillings, and pence. How often is it found, for example, that the invalid may be tempted to take a few oysters in preference to a small beef fillet, or some turtle soup when calves' head, the basis of mock turtle, would scarcely appeal to him, even although it may be more than equal in nutritive value to the only reptile used to any extent as food in this country. When a person refuses to take a given food, however nutritive and wholesome it may be, because it is not tempting to the sight or the palate, it is in many instances probable that if he struggles to overcome his fastidiousness such food may prove to tax his digestive functions and may even cause gastric trouble. The chemical analysis of food and physiological experiments in the test tube do not take into account this psychical factor of digestion, for the digestive process is well begun when the sight of food is pleasing. On the contrary, when food does not appeal to the eye it is likely not to appeal to the stomach. It is hardly reasonable to conclude, therefore, that the price of flavour is always the price of luxury. It is wrong, of course, to give way constantly to the promptings of the fanciful palate, and there is little doubt that when this outrage on a healthy function is permitted it is akin to the evil which follows the frequent imbibition of alcoholic drinks. In both cases overstimulation wears out the normal impulses. The man who enjoys plain food is miles ahead, physically and physiologically speaking, of the man who would leave his meal untouched if it were not that every item of it was calculated "to tickle the palate."

THE INTERNATIONAL CONGRESS OF LARYNGOLOGY AND RHINOLOGY.

THE committee of this Congress, which is to be held in Vienna from April 21st to 25th, 1908, in honour of Türck and Czermak, has decided to organise an exhibition connected with laryngology, rhinology, œsophagoscopy, and bronchoscopy. Among other objects to be shown will be instruments for examination, treatment, and operation, apparatus for inhalation, electro-medical apparatus for lighting and other technical objects, "prostheses," manuscripts, books, preparations, drawings, and the like. The committee invites all those interested to take part in this undertaking. All communications should be sent to the secretary of the Congress not later than Dec. 31st, 1907, Dr. M. Grossmann, Garnisongasse, 10, Vienna, IX. An exact description of the objects to be shown should be sent for the purpose of drawing up a catalogue. All exhibits should be forwarded by, at the latest, Feb. 15th, 1908, to Herr Ober-Ingenieur Jaroschka, Inspektor des k.k. Universitätsgebäudes, Vienna, in whose charge they will be. The executive committee guarantees that all objects sent shall be insured against fire, burglary, and damage, while the Customs authorities have agreed to allow free ingress and egress to exhibits. Any other information in connexion with the exhibition may be obtained from the secretary.

THE MEDICAL DEFENCE UNION.

WE need no excuse for again calling attention to the excellent work of the Medical Defence Union, which attained its majority last year. The report for 1906 which has been recently issued is one that is well worthy of the attention of the profession. There is little doubt that a still further increase in membership would result from a wider appreciation of the benefits accruing therefrom and the serious risks attendant on medical practice without such a safeguard. The council especially desires to bring these facts to the notice of recently qualified men and in this we strongly second it. There is an unfortunate tendency for men holding medical appointments to think that it will be time enough to consider the question of medical defence when they go into practice and that the broad shoulders of their hospital will bear the brunt of any charges that may be brought against them personally. That this is a great mistake is proved by a case quoted in the very interesting report of the Union's solicitor, Mr. W. E. Hempson; a visiting surgeon and house surgeon of a hospital were made co-defendants in a mischievous action for damages brought by a woman who alleged that she had suffered injury through their negligence, whereas it was really entirely through her own negligence of their instructions that she had suffered. Although "the judge made some very strong comments upon the nature of the action, and a verdict was given in favour of both defendants with costs," yet the woman, who was married, had sued in her own name alone, thus rendering her husband secure from claim, and not one penny of the £170 spent in defence was recovered. Many other cases are recorded of equal audacity; in one that seems almost incredible to the non-legal mind a vindictive litigant brought five consecutive actions in as many county courts against a consultant for damages for

alleged injury; in every one of them the verdict was given against the plaintiff with costs, but, as usual, he was a man of straw and none were recovered. The possibility of such exploitation of the law courts for the persecution of medical men is a serious defect of our legislative machinery and one which would press well-nigh intolerably on the profession if it were not for such beneficent aid as is afforded by the Medical Defence Union and similar useful bodies; in one case last year which passed through three trials and two appeals the costs against the Union amounted to nearly £800, five other cases averaged over £100 each, and of the entire 193 cases which passed through the solicitor's hands 20 accounted for £1729 of the total law expenses of the year; it is obvious that few practitioners could bear such burdens unassisted. It is a noteworthy fact that speaks volumes for the increasing respect entertained for the Medical Defence Union as an opponent, that whereas ten years ago its solicitor had to deal with cases representing 6 per cent. of its membership, during last year with a doubled membership he had to treat little more than 3 per cent.; this means that the decisive preliminary action of the general secretary, Dr. A. G. Bateman, was quite sufficient to nip a large number of threatened actions in the bud. The wide field of utility of Dr. Bateman's work in settling internal as well as external professional dissensions and advising on many legal matters is well exemplified in the report by a schedule of cases selected from the minute-book. It is satisfactory to read that the financial condition of the Union is sound and that the membership of 7042 shows an increase of 667 on the previous year. The council expresses a hope that each member may bring in a new one during this year and we are pleased to take this opportunity of giving further publicity to so excellent an aspiration.

PELVIC ABSCESSES OF APPENDICAL ORIGIN.

Mr. Gilbert Barling recently gave a clinical lecture at the General Hospital, Birmingham, on a somewhat unusual form of pelvic abscess derived from an appendicitis. The lecture appears in the present issue of THE LANCET and to it we refer our readers for a full account of the case. The essential points are these. A man, aged 42 years, had for ten years suffered from recurring attacks of abdominal pain, with vomiting and constipation. A year before admission he had cystitis, which had continued, though less severe, to the date when he was first seen. Nothing was to be felt in the right iliac fossa, but per rectum on the left side of the pelvis was a large dense mass with some fulness on the right side. The cystoscope showed only a diffuse inflammation of the mucous membrane of the bladder; there was no ulceration. When the abdomen was opened in the middle line immediately above the pubes, on the right side was found the appendix surrounded by a few drachms of pus; but on the left side of the pelvis was a large abscess containing several ounces of very fœtid pus. This abscess was completely distinct from that surrounding the appendix. There was no communication between either abscess and the interior of the bladder, so that the cystitis was due to an extension of inflammation from the abscess through the bladder wall and not to any direct communication between them. The chief interest in this case is connected with the abscess on the left side of the pelvis. It is as a rule easy to find an abscess surrounding an inflamed appendix, but unless the surgeon is on the look out for it pelvic abscess due to the appendicitis, but not anatomically connected with it, is very likely to escape notice. The condition is important and hitherto it has not received the recognition which it deserves. Bérard and Patel were apparently the first to distinguish as para-appendicular those abscesses in the pelvis which are unconnected anatomically with the inflamed appendix, though resulting from the appendicular inflammation. In many cases of pelvic abscess there are special symptoms which are referable to the abscess; these are mainly vesical and rectal. Frequent or painful micturition may be present or even retention of urine. The rectal disturbance may manifest itself as tenesmus or diarrhœa may occur. If any other symptoms of appendicitis are present these symptoms should always suggest the presence of a pelvic abscess. If no signs of appendicitis are obvious there is great likelihood of the vesical irritation being looked upon as due to cystitis or a stone may be thought to be present. In Mr. Barling's case the history suggested appendicitis but the symptoms at the time of admission were almost limited to those of cystitis. A rectal examination, however, disclosed the presence of the pelvic abscesses.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN IN DUNFERMLINE.

THE first annual report by Dr. R. V. C. Ash on the Medical Inspection of School Children in Dunfermline under the local Carnegie Trust is before us and is an admirable example of what such a report should be, the information being carefully tabulated and illustrated by lucid charts. It is based on the examination of 2000 school children of all ages, of whom the great majority were boys, and is the result of a scheme which aims at the medical examination of all children in Dunfermline on entering school, on passing into the senior department and on leaving; the last examination is strongly advocated as a help in deciding the child's future career. Where defects are found the requisite treatment is adopted, and especial care has been devoted to defective eyes and teeth, and the presence of adenoids. Curves showing average height, weight, and chest measurements compared with those of the Anthropometric Committee's standard are included. No children were examined without the previous consent of their parents being obtained, and it is interesting that although there was considerable opposition from this source at the inception of the scheme, such trouble is rarely encountered now that there is a more general appreciation of its objects. The parents are informed of any defect that is found and a similar intimation is given to the medical attendant under whose care the case will fall.

FRENCH MEDICAL MEN AND THE ENGLISH LANGUAGE.

THE evidence of bibliography as to the state of national culture is extremely instructive. In the Montpellier theses, of which some 420 were published between the years 1900–04, it has been customary to insert a literature of all the authorities consulted by the individual writers, and this is printed at the end of the thesis and immediately in front of the quaint Hippocratic "*serment*" sworn to at Montpellier by every candidate on attaining the doctorial degree. From these literatures or bibliographies, some of which are voluminous, it may be inferred that young French medical men read little outside the limits of their own language. The great majority of authorities quoted are French, as we should expect in a country where the average man is as proud of his mother tongue as an ancient Roman was of his. It is curious, however, to note that while lengthy German articles, couched in all the complex obscurity of the most original of languages, are often correctly cited, English but seldom makes its appearance in the bibliographies constantly printed in Montpellier. When it does it has mostly undergone torture. Well-known English surnames are rarely rightly printed. A Dr. Macleod appears as "Mocleod," Sir Frederick Treves figures as "Trêves," and so forth. As to the transcripts of titles of books and articles they often baffle us entirely. Of course, some allowance must be made for the fact that in France, even in these days of the *entente*, it is

common form to print English carelessly and to make a mess of English designations. Many a Frenchman, for instance, writes "Sir Jones" with his eyes open, knowing that he is incorrect, but conniving, as it were, at popular error. But after discounting this tendency we are faced by the unpleasant suspicion that English science and the English language are still regarded as barbarous and negligible by the average Frenchman of scientific culture.

EPIDEMIC CEREBRO-SPINAL FEVER.

CASES of epidemic cerebro-spinal fever continue to be reported from many parts of the country. The first occurrence of the disease in the city of Nottingham was announced a few days ago. The patient, who is a boy aged eight years, is said not to have been out of Nottingham for some time and the origin of the infection is unknown. Other cases have presented themselves at Manchester, at Wrexham, and at Pilsley in Derbyshire. In Scotland during the week ended May 11th there were 18 deaths from this cause registered in Glasgow, six in Edinburgh, four in Leith, two in Paisley, and one in Dundee. In Glasgow the weekly report issued on May 10th showed that there were at that time 127 cases under treatment. Cases have also occurred at Perth, at Elgin, at Paisley, at Port Glasgow, and at various villages and small towns in the counties of Dumbarton, Fife, Forfar, and Stirling. In Belfast there has now been a total of 398 cases with 279 deaths.

THE PASTEUR INSTITUTE OF INDIA.

WE have received the sixth annual report of the Director of the Pasteur Institute at Kasauli dealing with its work between August, 1905, and August, 1906. Its scope has increased wonderfully and during this period 1145 persons have been treated and 117 other cases investigated but not treated, as satisfactory evidence was forthcoming to show that the animals which had bitten them were not rabid. The director insists on the importance of securing the biting animal alive in every possible case and of observing it for ten days, which period covers the time during which it may be virulent; if no sign of rabies appears within this limit the person bitten is in no danger and needs no treatment; the examination of the brains of dead animals has only a very limited negative value. The systematic slanderers of experiments on animals, whose predecessors attempted to cast such obloquy on Pasteur during the last century, may be well answered by a single extract from this report. "The increase in the number of patients is undoubtedly due to the wider diffusion of knowledge of the treatment and to appreciation of its results." These results are sufficiently striking; statistics are very variable as to the mortality attendant on bites by rabid animals, but 15 per cent. is almost certainly a low estimate amongst untreated patients. At the Institute of India during the last five years amongst patients there treated who had been bitten by animals definitely proved to have been rabid (either experimentally or by the development of the malady in other animals bitten by them) the mortality was *nil* for 415 Europeans and 0·97 per cent. for 409 Indians. Amongst those bitten by animals certified by a veterinary surgeon or medical officer to have been rabid there were 245 Europeans, of whom none died, and 213 natives, of whom 0·93 per cent. died; and of those bitten by animals only suspected of rabies 0·13 per cent. of 721 Europeans and 1·3 per cent. of 1758 Indians died. This can only be called a triumph of applied experimental science, the more especially as many of the patients treated were bitten by wolves and jackals, animals in which the virulence of the disease is frequently exalted. The compilers of the excellent report from which these figures are quoted insist strongly, however, on the urgent necessity of corporate preventive measures to control the scourge in India, and appeal to private persons to exercise more restraints on animals that have been bitten. It is obvious that much might be done in this way, even though a muzzling order could scarcely be applied to any purpose in a land full of wild animals. The report points out that this institute will this year become the Pasteur Institute of Upper India only as a similar institute is to be established at Conoor. Further extension is needed at Kasauli, however, and an appeal is made to wealthy Indians to provide increased accommodation, especially for the lodging of native patients.

THE TREATMENT OF GONORRHŒA.

THE *Scottish Medical and Surgical Journal* for May contains a useful paper on the treatment of gonorrhœa by irrigation from the pen of Dr. J. S. Purdy who has made some interesting experiments in order to demonstrate that ordinary urethral injections do not penetrate beyond the membranous urethra. With a four-drachm glass syringe he injected into the urethra of a cadaver a solution of methylene blue. He found that staining occurred as far as the termination of the membranous portion but no further. On using the douche tin an elevation of 2½ feet was sufficient to stain the prostatic urethra and of 3 feet for intravesical irrigation. On the living subject an elevation of not less than 5½ feet was necessary to reach the bladder without a catheter. For intravesical irrigation it is better to use a catheter. Although the resistance may be overcome by using a column of water sufficiently high, it is not always advisable to do so, especially in nervous patients. Dr. Purdy has previously published his experience in the treatment of gonorrhœa with the new organic compound of silver, protargol, at the London Lock Hospital.[1] This body has the advantage of being non-irritating even in strong solutions. After first washing out the urethra he injects four times daily a 5 per cent. solution, which the patient holds in the urethra for at least five minutes. In from four to 10 days all obvious discharge ceases. On the cessation of the discharge he uses a weak astringent injection, a solution of sulphate of zinc, one grain to the ounce, which is held in the urethra for half a minute. In some cases cure is completed within 14 days. In posterior urethritis Dr. Purdy has obtained good results from deep instillations of silver nitrate and in some obstinate cases finds this method necessary but he considers that no method gives such uniformly satisfactory results as urethral and intravesical irrigation. He uses a double-channel nozzle made of celluloid or metal, consisting of two tubes concentrically arranged so as to allow the fluid to flow through the inner and to return by the outer. An ordinary burette clip serves to control the stream. Dr. Purdy's experience of the urethroscope is not fortunate. In some cases the disease was even aggravated by its use. Much practice and skilful manipulation are required in order to use this instrument with benefit.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE British Association has now reached the age of 77 years and its comprehensive objects must be well known to our readers; in the words of its constitution they are: "To give a stronger impulse and a more systematic direction to scientific inquiry; to promote the intercourse of those who cultivate science in different parts of the British Empire with one another and with foreign philosophers; to obtain more general attention for

[1] THE LANCET, Dec. 19th, 1903, p. 1716.

the objects of science and the removal of any disadvantages of a public kind which impede its progress." Of the success with which these objects have been attained in the past there is no need now to speak; but we take the present opportunity of calling attention to the forthcoming annual meeting of the Association which will commence at Leicester on Wednesday, July 31st, under the presidency of Sir David Gill, K.C.B., F.R.S., formerly His Majesty's astronomer at the Cape of Good Hope. The sectional meetings for the reading and discussion of reports and papers will be held under the presidency of the following gentlemen respectively: (*a*) Mathematical and Physical Science, Professor A. E. H. Love, F.R.S.; (*b*) Chemistry, Professor A. Smithells, F.R.S.; (*c*) Geology, Professor J. W. Gregory, F.R.S.; (*d*) Zoology, Mr. W. E. Hoyle; (*e*) Geography, Mr. George G. Chisholm, F.R.G.S.; (*f*) Economic Science and Statistics, Professor W. J. Ashley; (*g*) Engineering, Professor Silvanus P. Thompson, F.R.S.; (*h*) Anthropology, Mr. D. G. Hogarth; (*i*) Physiology, Professor A. D. Waller, F.R.S.; (*k*) Botany, Professor J. B. Farmer, F.R.S.; and (*l*) Educational Science, Sir Philip Magnus, M.P. The programme of evening meetings includes a reception to be given by the Mayor of Leicester on August 1st in the Abbey Park and a soirée in the museum buildings on the 6th. Excursions to the many "places of interest in the district" will be arranged for Saturday, August 3rd, and the central position of this year's meeting-place is well shown by the fact that such distant spots as Haddon, Warwick, and Peterborough are included under this heading in the prospectus of the association. Tickets for the meeting may be obtained from June 1st to July 23rd at the office of the Association in Burlington House, London, W., and after July 24th at the Reception Rooms at Leicester. Their price to annual members and associates for the meeting is £1; the former receive the reports of the meeting free, and the latter at two-thirds of the published price. Ladies are admitted on equal terms.

A DISCUSSION will take place on Infantile Mortality on Friday, May 31st, in the Western Law Courts, Guildhall, Plymouth, at 7.30 P.M. The chair will be taken by Colonel J. Lane Notter, R.A.M.C., chairman of the council of the Royal Sanitary Institute, by whom the debate has been arranged. The discussion will be opened by Major R. J. Blackham, R.A.M.C., and a general conference is invited. On Saturday, June 1st, visits will be made to the Royal Dockyard and the Plymouth Coöperative Society's bakery.

THE Department of Public Health of Queensland in a bulletin dated April 6th states that for the week ending on that day no cases of plague had occurred. The date of the last case notified was March 17th. As regards Hong-Kong a telegram from the Acting-Governor (received at the Colonial Office on May 13th) states that for the week ending May 11th there were 15 cases of plague and 10 deaths from the disease.

Principal Donald MacAlister, M.D. Cantab., LL.D., D.C.L., will preside at a dinner of the Glasgow University Club, London, to be given in the Trocadéro Restaurant, Piccadilly, W., on Friday, May 31st, at 7.15 for 7.30 P.M. Application for tickets should be made to the honorary secretary, 63, Harley-street, W. It is anticipated that the Right Hon. Lord Kelvin, O.M., K.C.V.O., president of the club, will be present.

THE next session of the General Medical Council will begin on Tuesday, May 28th, at 2 o'clock P.M.; the President, Dr. Donald MacAlister, will occupy the chair.

MEDITERRANEAN OR MALTA FEVER.[1]

THE final reports of the Commission appointed by the Admiralty, War Office, and Civil Government of Malta for the Investigation of Mediterranean Fever are now published and it is sincerely to be hoped that the authorities concerned will read, mark, learn, and inwardly digest them.

In Part VI. we find the record of an immense amount of work by Dr. J. W. H. Eyre, Major J. G. McNaught, R.A.M.C., Captain J. C. Kennedy, R.A.M.C., and Dr. T. Zammit, professor of chemistry, University of Malta. The report opens with a brief summary of the technique employed for the isolation and identification of the micrococcus Melitensis. Then the question of the goat as a factor in the dissemination of the fever is proceeded with and the facts ascertained are noted under the following heads:—1. The Distribution of Milch Goats Naturally Infected with Micrococcus Melitensis. Here the results showed conclusively the necessity for repeated examinations at short intervals of every herd if the detection of *all* the infected animals is aimed at. 2. The Agglutination Test as Applied to the Milch Goat. 3. The Numerical Relationship of Micrococcus Melitensis to the Milk of Infected Goats. 4. The Presence of Micrococcus Melitensis in Milk Products. It could be isolated from cheese and from ice-creams where no heating had been employed in their preparation in order to insure the thorough incorporation of the ingredients; where heating had been used the living organism could not be recovered, although it was known to be present in abundance in the infected milk. 5. The Susceptibility of the Goat to, and Paths of Infection by, Micrococcus Melitensis. Contact infection, subcutaneous infection, and cutaneous infection were all considered and were found capable of communicating the disease, whereas transmission by blood-sucking flies other than by mechanical conveyance upon body or limbs was seen to be extremely improbable.

In the infected goat the micrococcus was next found to be localised in the blood, the spleen, the lymphatic glands, the kidneys, and the mammary gland. A very interesting point was discovered—namely, that while an appreciable amount of specific agglutination is usually transferred from the infected milch goat to the offspring, yet that the micrococcus Melitensis, minute though it be, does not appear to cross the placenta. Experiments are detailed as the result of the administration by the mouth of infected goat's milk to monkeys and it was found that this was followed by an attack of micrococcus Melitensis septicæmia in 83 per cent.

There are many other valuable observations contained in this report; we can, however, only allude to the prophylactic inoculations with micrococcus Melitensis vaccine. The results of this measure certainly encourage the hope that its employment might be a measure of practical utility. The inoculated man enjoyed an immunity for a considerable time from any attack of Malta fever.

In Part VII., which concludes the account of the valuable work performed by the Commission, we find details of the epidemiology of Mediterranean fever in the navy, the preventive measures instituted against this fever in the navy, personal observations as to its prevalence in separate battleships, cruisers, and destroyers during 1906, and facts elicited by the study of individual cases, together with a very complete history of the outbreak of the fever on board the s.s. *Joshua Nicholson*. The facts elicited in this section are ably drawn up by Staff Surgeon F. H. A. Clayton, R.N.

Major T. C. McCulloch, R.A.M.C., and Major J. C. Weir, R.A.M.C., next deal with the disease as it affected the army. They consider amongst other matters the prevalence of the fever in the different branches of the service, comparing its seizure of the artillery and infantry and drawing attention to its special prevalence amongst the Royal Army Medical Corps. The age and amount of service in Malta in relation to Mediterranean fever in Malta are dealt with. Proceeding more into detail, the authors tell us of the result of investigations into the milk-supply, the examination of goats, and the distribution of the cases. The cases occurring in the 1st Battalion Royal West Kent Regiment, in the Royal Army Medical Corps, and in hospital are analysed and instances are narrated in which the men were probably infected

[1] Report of the Commission appointed by the Admiralty, War Office, and the Civil Government of Malta for the Investigation of Mediterranean Fever, under the supervision of an Advisory Committee of the Royal Society. Part VI. Pp. 137. Price 3*s*. Part 7. Pp. 261. Price 5*s*. London: Harrison and Sons. April, 1907.

through handling ponies harbouring the specific micrococcus. In none of the cases examined could any evidence be gathered of the spread of the fever by means of mosquitoes or other biting insect, although it is stated that flies may act as carriers. The investigation of the garrison resulted in the following indications: (*a*) that the goat is the primary source from which the disease is spread; (*b*) that goat's milk is the common vehicle for the micrococcus Melitensis; (*c*) that flies may act as carriers; and (*d*) that the other paths of infection play but a minor part. Contact and dust are possible, but probably very infrequent, factors, while the case for mosquitoes and other biting insects is not proved.

The last section of this volume deals with the fever in the civil population. Tables are given showing that it occurs all through the year, with an increase during the hot-weather months. With regard to sex, males and females appear to be about equally liable. The case mortality in the civil population for the ten years from 1896 to 1905 worked out at about 9·5 per cent. as compared with 3·3 for the garrison. Here, again, goats' milk is incriminated as the factor in the causation of the fever, a point well brought out by Dr. A. Critien, of the Public Health Department, Malta.

The volume concludes with a general summary of the facts by Major McCulloch and Major Weir and Staff Surgeon Clayton, and with a series of recommendations, the most important of which have reference to the goats. As a result reacting goats will be segregated and where found to be persistently infected will be killed, compensation being paid to the owners. Condensed milk has been substituted for goats' milk in both naval and military hospitals; the entry of goats into barracks has been prohibited, whilst soldiers, single and married, have been warned as to the dangers of using goats' milk or articles made from it outside their barrack quarters.

The Commission is to be congratulated on the far-reaching results that should be obtained from its labours; the report is one of the most valuable that we have ever perused. For, taking all the facts and arguments into consideration as set forth in the report, it would appear that the Commission has been successful in discovering the main source of infection of Mediterranean fever. This source is the Maltese goats, some 20,000 in number, half of which have been found to be affected by Mediterranean fever, and one-tenth of which are constantly passing the parasite of this disease in their milk. If this source of infection is removed, in all probability the fever will completely disappear from Malta.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN Extraordinary Comitia of the Royal College of Physicians of London was held on May 9th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that he had conveyed the congratulations of the College on the occasion of the eightieth anniversary of his birthday to Lord Lister who had returned his warm and sincere thanks for the honour done to him.

The following gentlemen elected to the Fellowship of the College at the last meeting were admitted:—James Barry Ball, M.D. Lond., Arthur Thomas Wilkinson, M.D. Lond., Edward Mansfield Brockbank, M.D. Vict., William James Fenton, M.D. Cantab., Edwin Bramwell, M.B. Edin., Andrew Duncan, M.D. Lond., Robert Jones, M.D. Lond., and Herbert Stanley French, M.D. Oxon.

A communication was received from the Executive Committee of the International Memorial to Semmelweiss, thanking the College for its assistance and sending a medallion struck in commemoration. It was directed that a reply should be sent congratulating the International Committee on the completion of its labours and thanking it for the medallion.

The PRESIDENT announced that he had nominated Dr. M. C. Grabham of Madeira to represent the College at the centenary commemoration of the foundation of the Geological Society of London.

The resignation of Dr. H. Charlton Bastian of the office of curator of the museum was accepted and the thanks of the College were accorded to him for having held the office so long. The PRESIDENT nominated Dr. William Hunter to the post.

A petition was received from the London School of Medicine for Women praying for the admission of women to the examinations of the College. On the motion of the SENIOR CENSOR, seconded by Sir THOMAS BARLOW, it was directed that printed copies of the petition should be circulated among the Fellows before any subsequent meeting of the College at which the matter should be further considered.

After some formal business the PRESIDENT dissolved the Comitia.

NATIONAL ASSOCIATION FOR THE ESTABLISHMENT AND MAINTENANCE OF SANATORIA FOR WORKERS SUFFERING FROM TUBERCULOSIS: THE BENENDEN SANATORIUM.

DINNER IN AID OF THE FUNDS.

His Royal Highness the PRINCE OF WALES presided at a dinner in aid of the funds of the National Association for the Establishment and Maintenance of Sanatoria for Workers Suffering from Tuberculosis held at the Hotel Cecil on Tuesday, May 14th, as a result of which the treasurer, Mr. A. WILLIAM WEST, was enabled to announce a subscription list of £13,261.

The toast of "The King" having been given by His Royal Highness the PRINCE OF WALES, the health of "The Queen, the Prince and Princess of Wales, and the other Members of the Royal Family," was proposed by his Excellency the American Ambassador, and responded to by H.R.H. the PRINCE OF WALES, after which His Royal Highness proposed the toast of the evening, "Success to the National Association for the Establishment and Maintenance of Sanatoria for Workers Suffering from Tuberculosis." He recapitulated the history of the movement and its growth under the patronage of H.R.H. Princess Christian of Schleswig-Holstein. As a result a sanatorium of 200 beds was to be started, in the hope that if it was a financial as well as an educational success it would serve as an inducement to found branches and to encourage the friendly societies to obtain legal powers to draw on their funds to enable them to build similar institutions. As a result of an appeal to public generosity the sanatorium at Benenden, of which the foundation stone was laid on July 14th, 1906, had been built and opened for the reception of patients on March 4th, 1907. His Royal Highness referred to the educational value of such institutions and to the fact that they would relieve existing charities. He pointed out that there were at present less than 1000 beds for the open-air treatment of the working classes in this country and that the yearly victims in London alone were upwards of 16,000 persons, and, further, that it was estimated that in London alone £4,000,000 were annually lost in wages to the working classes by consumption.

Mr. C. H. GARLAND, the chairman of the council, in responding to the toast, referred to the value of the support and patronage of the Royal Family and outlined the scope and objects of the scheme. The association had been able to prove that it is cheaper for the friendly societies to treat and to cure their consumptives than to pay out their sick pay and the final funeral expenses. Their object was to erect an institution which would be no further charge on the charitable public but which would be assured of permanent maintenance from the friendly societies.

Mr. W. G. BUNN also responded and referred to the objects of the association.

DESCRIPTION OF THE SANATORIUM.

The National Sanatorium, Benenden, was formally opened by Princess Christian on April 30th.

The site selected for the sanatorium is on rising ground seven miles from Headcorn and six miles from Cranbrook stations near Benenden, Kent. There is a light railway running to within three and a half miles of the institution. The soil is Lower Greensand, perhaps not absolutely the most ideal soil if money were of no account in the matter, but it was considered that a cheap site was a great essential to the success of the scheme. The situation chosen had also the advantage that two farms adjacent to the site could be

procured. These farms covered 250 acres and were suitably arranged for the prosecution of the farm colony which is part of the scheme proposed by the association. In regard to water an ample and excellent supply has been obtained from an artesian well 150 feet deep, supplying 2000 gallons an hour, which is raised by a three and a half horse power oil engine to a reservoir on the highest part of the site from which the water will gravitate to the sanatorium.

The institution is divided into a central block to accommodate 68 patients, an administration block and dining hall, and a laundry and electric-light block. Pavilions will be added later bringing up the number of beds to 200. The central portion for 68 patients has been erected 230 feet above sea level, with an uninterrupted view to the south; it is two storeys in height and is divided into two parts by a recreation room which forms the centre of the block; the wings at the outer extremities of this portion of the building are inclined inwards so as to afford shelter. In this main block it is intended to place the more serious cases which are likely to require most medical and nursing attention. Of the rooms provided in this part 20 are single-bedded rooms, the remainder being double-bedded. The fall of the ground has been utilised for placing the sterilising apparatus and the steam boiler under one end of the building. The water for the lavatories and baths is heated by steam as are the rooms by anthracite stoves. The drainage is carried out on the septic tank system. The lavatory towers are cut off from the main building by cross-ventilated corridors. Along the whole length of this part of the sanatorium there is a terrace.

A portion only of the administration block has as yet been erected, consisting of the dining hall and accommodation for the resident medical officer, the matron, the nurses, and the servants. The method of construction is entirely new for this class of building; it is of steel framing throughout, the intermediate space between the stanchions and girders being filled in with "frazzi," cement rough-cast on the outside and plastered on the inside, the floors and partitions being made in the same way. This method of construction offers great advantages. It is certainly economical, for the cost per bed works out at £100. The building is permanent and fireproof throughout; it is warm in winter and cool in summer. Although the floors and doors are of teak it is believed that the extra initial cost will be found to be an economy in the end. Each room has a double French casement opening to the ground directly to the south, and there are open sashes into the corridor at the back at the level of the ceiling. The main objects have been to arrive at a plan which will give the minimum amount of work in its future maintenance whilst at the same time sacrificing nothing in regard to efficiency.

The illustration of the institution is from a photograph supplied by the architect, Mr. A. William West.

The National Sanatorium, Benenden, Kent.

"THE NECESSITY FOR A MINISTER OF PUBLIC HEALTH."

UNDER the auspices of the New Reform Club Dr. A. Rolland Rainy, M.P., delivered on May 10th at Adelphi Terrace an address on "The Necessity for a Minister of Public Health." Sir WILLIAM J. COLLINS, M.P., who presided, said that no one who studied the development of legislation or municipal administration could fail to be struck with the fact that the State was tending more and more to seek if not to act upon medical advice. Medical men had already been municipalised and there was a tendency towards nationalising them. He and his colleagues could not help feeling, however, that greater demands were made upon the medical profession by public bodies than medical science and art could respond to, for medicine was not an exact science and did not lend itself readily to the methods and processes of legislation.

Dr. RAINY said that the creation of a Minister of Public Health would put the medical profession on the same basis as the navy, the army, and the legal profession. The navy and army were supported by the State in order that the people might be protected from foreign enemies. In the same way the medical profession would protect us from the enemy, disease. But if the medical profession were lifted into a recognised department of the State it must accept the limitations which a service of this kind imposed. He admitted that he could not quote the conditions prevailing in other countries as a guide but said that his investigations had shown him that the whole matter of public health in this country was chaotic, ineffective, and expensive. With regard to the further question whether, if there were a Minister of Health he should be a medical man he thought that unless there should be a medical man in the House of Commons of very exceptional ability the Minister had better be a layman. The medical profession was represented in the House by a small body, and he could not help feeling that other Members looked upon them very often as seeking the interests of the profession to which they belonged more than that of the public, though, of course, there was no justification for that feeling. It was, however, an important fact to remember, and he considered that it would be unwise to suggest that the new Minister should be a member of the medical profession. The speaker went on to point out the range of the duties of a Minister of Public Health. He would be expected to take charge of the air and to see that air was supplied to everybody under proper conditions. Light would also be under his charge as well as the conditions under which food could be bought and sold and the source of its supply. Clothing was another matter of which he would have some control. With regard to the matter of food and clothing if the people had advanced along Socialistic lines to the extent of saying that a child was to be educated that child ought to be in a position to be taught properly and that implied proper clothing and food. Sanitation and hours of

labour were other things which he would have to supervise. Epidemics and endemics would also be dealt with by him. He (the lecturer) was sorry to say that in Scotland there were places where typhus fever was endemic because the authorities were too poor to do anything. Maps of disease would have to be prepared similar to meteorological reports, so that the Minister of Health would be able to follow, and the public read in the papers, the progress or otherwise that disease was making. A Minister of Health, too, who had the power of ordering a cordon to be placed around areas of sporadic diseases would be in a position to collect valuable information in regard to such diseases. Under the heading of preventive medicine the first place should be given to education and children should be taught to know what things produced health and what things produced ill health. The specific treatment of disease opened up the question of the individuality of the subject, and in regard to vaccination he thought that if it was a good thing for the public health it ought to be enforced. It was ridiculous to have an Act on the statute book if it was not enforced. The new Minister would take over all the powers conferred under the Local Government Board Acts in relation to public health and would have to be assisted by a large and properly coördinated staff. The Minister of Public Health should have the same power with regard to human beings as the Board of Agriculture with regard to the lower animals. He should be in the Cabinet and directly responsible to Parliament. He thought that people were realising more and more the importance of preventing disease. If the health of the people was to be effectively dealt with from infant life to adult life the public safety must be put in the hands of experts under the jurisdiction and control of Parliament.

In the discussion which followed Sir WILLIAM COLLINS said that in perusing Hansard's Parliamentary Reports it seemed to him that the health of nations occupied almost as much space as the wealth of nations. Accepting central and local organisations as they are, it remained to be seen what could be done to unify the work of each. He would, however, view unfavourably any attempt at over-concentration or at violent coercive legislation—he did not think that a policeman should ever enforce a prescription. Although by his very training a medical man was fitted to take part in public affairs, yet he preferred to regard him as a friend, philosopher, and guide rather than as a benevolent despot armed with an Order in Council. The public must beware lest whilst they were true to humanity they were false to liberty. He confessed on the whole matter he was not prepared to commit himself and thus he had, he hoped, been able to preside with due impartiality.

A resolution was adopted in the following words:—

That this meeting is of the opinion that the time has come when a Minister of Public Health should be recognised and be given a seat in the Cabinet of His Majesty's Government. In this way not only would the administration of medical matters in the different official departments be systematised but also a much-needed quickening of the "National Health Conscience" would be effected.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on May 9th, Mr. HENRY MORRIS, the President, being in the chair.

Dr. Alexander Hill and Professor Arthur Thomson were introduced and after signing the by-laws and making the required declaration were admitted Fellows of the College.

Mr. Donald J. Armour was introduced and the President handed to him the Jacksonian prize together with a document declaratory of the award.

In accordance with a report from the Court of Examiners it was resolved that diplomas of Membership should be issued to 110 successful candidates.

A report from the Committee of Management on the subject of the teaching of midwifery was approved and adopted. The main points in the report were: (1) that every student shall himself conduct 20 labours, but before conducting these labours he shall be required to have held the posts of medical clinical clerk and of surgical dresser during six months each, and to have attended a course of practical instruction in midwifery; and (2) that every student shall be required to discharge the duties of clinical clerk in the gynæcological wards or out-patient department.

The Committee of Management further reported that it had received from Dr. Theodore Dyke Acland a report on the examinations of the Egyptian Medical School. The thanks of the Council were given to Dr. Acland for his valuable services in the matter.

It was decided that no Fellows' dinner should be held this year.

A letter was read from Lord Lister thanking the Council for its kind words of congratulation on the eightieth anniversary of his birth.

The PRESIDENT stated that, as requested by the Council on Nov. 8th, 1906, he had appeared before the Royal Commission on Vivisection and had given evidence on behalf of the College.

A letter was read from Dr. Thomas James Walker, of 33, Westgate, Peterborough, stating that to mark the completion of the fiftieth year of his Membership of the College he asked the President and Council to accept a volume of original notes of John Hunter's Lectures, taken by Mr. Hopkinson who, 100 years ago, was carrying on the practice now conducted by Dr. Walker in association with his son and Dr. G. Kirkwood. The Council accepted the gift and passed the following resolution:—

The Council hereby express to Dr. Walker their warm thanks for marking the completion of his fiftieth year of Membership of the College in so generous a manner, and assure him that his very valuable gift will be preserved with the greatest care and appreciation.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Outbreak of Enteric Fever in the Borough of Mansfield, by Dr. THEODORE THOMSON.[1]—In this report Dr. Theodore Thomson gives an interesting account of an epidemiological inquiry into an outbreak of enteric fever which occurred last autumn in the borough of Mansfield (in the county of Nottingham) and in the adjacent urban district of Mansfield-Woodhouse. The borough has a population of some 29,000 persons and Mansfield-Woodhouse of about 7000. Typhoid fever had not shown excessive prevalence in either district during previous years. In 1906 a few scattered cases of enteric fever occurred in the borough during the earlier months and seven cases between the beginning of July and the end of September. These were followed by a total of 89 cases in the last three months of the year. The most definite epidemic period was between Oct. 17th and Nov. 11th, during which 60 cases were notified. In Mansfield-Woodhouse the circumstances were parallel, and it was clear that this district had been affected, in proportion to its population, in much the same way as the adjoining borough. In the earlier stages of the outbreak in October suspicion fell on a particular milk-supply. On the premises of the dairyman in question it was the custom to store milk in a back yard. Here there was a pail closet which had been used by an inmate of the dairyman's house who had suffered during September from an illness suspected to have been enteric fever. At first sight the fact that there was no exceptional incidence of enteric fever either in the neighbourhood of the dairyman's premises, among customers buying milk over the counter, or among the regular customers whom he supplied by cart, seemed to remove all suspicion from his milk. But the particular milk which was stored in the back yard and so became exposed to contamination carried from the pail closet by flies or other agencies of transmission of infection turned out to be residual milk which the dairyman habitually sold to other milk dealers in Mansfield whose supplies had run short during the dry weather which prevailed during the summer and autumn of 1906. Several dealers furnishing milk to customers in different parts of the town obtained a supplementary supply in this way, and it seemed that a theory of milk causation might in the circumstances square with the fact that the cases of fever were not localised but were scattered throughout Mansfield and Mansfield-Woodhouse. When the facts came to be worked out fully, however, it appeared that there was no materially greater incidence of enteric fever among customers of milk

[1] London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. No. 254. Price 4d.

dealers who supplemented their supply by milk stored on the premises in question, nor was there reason to suspect other milk. The preponderating ages and sex of the persons attacked were not what are usually found in outbreaks due to infected milk; more males were attacked than females and relatively few children.

Having been able definitely to exclude milk, Dr. Thomson made systematic inquiries as to various other likely or unlikely agencies of infection, but with negative results. These inquiries related in turn to the consumption of shell-fish, ice-cream, watercress and other greenstuff eaten raw, aerated waters, and butter, and to the possibility of the epidemic having originated in infection among persons employed in the local coal workings. It appeared also that there was no special relation of the disease to conservancy systems. In the borough of Mansfield the fever occurred in 1·7 per cent. of 4365 houses with water-closets, 1·2 per cent. of 828 houses with midden privies, and 0·6 per cent. of 807 houses with pail closets. In regard to defects in drainage, removal of refuse, and general cleanliness, the houses in which the disease occurred were, as a whole, no worse than others which escaped, while many were entirely free from defective conditions in these respects. There was no localisation of incidence corresponding to the distribution of particular sewerage systems or particular sewers.

All this negative evidence when considered together with the facts as to the incidence and general distribution of the disease throughout Mansfield and Mansfield-Woodhouse and with the circumstance that these two places are supplied in common by a single water service, tended to direct special attention to the possibility or probability of a water infection. But here also at first sight any hypothesis of infection by the water-supply seemed unlikely. The water is derived from a deep well in the Bunter beds of the New Red Sandstone about three miles out of Mansfield. The well is 110 feet deep and protected by a lining of blue bricks, supplemented by cement concrete backing and by cast-iron tubing for a depth of 69 feet. The Bunter beds consist of compact sandstone and are considered to be practically without fissures. There are, however, certain boreholes by the side of the well to which surface water or drainage from the engine room floor might have gained access and so have reached the supply. In this connexion it is noteworthy that after nearly three weeks of almost complete drought there was a moderate rainfall about the end of the second week in September, followed by an unusually heavy fall on Oct. 2nd. The latter rainfall occurred a fortnight before the commencement of the epidemic proper. Nevertheless on local inquiry Dr. Thomson found nothing to suggest that during the period in question there was any opportunity of specific infection which, in consequence of heavy rainfall or otherwise, might have gained access to the supply. For various reasons it seemed possible to put aside the question of infection having taken place in the mains or otherwise in course of the distribution of the water after it had left the pumping-station. Moreover, water from the same well is distributed, not only to Mansfield and Mansfield-Woodhouse but also to other localities with a total population of 7000, among which no case of enteric fever is known to have occurred during the last four months of 1906. The entire freedom of so large a body of persons from the fever during all these months afforded by itself strong presumption against the water-supply having served as the carrier of infection in the areas invaded by the disease. Dr. Thomson points out, however, that the water supplied to this population of 7000 differs in one respect from that supplied to the greater part of Mansfield and Mansfield-Woodhouse. Before distribution it has a period of rest in one or the other of two local reservoirs, and this rest period may be as much as, or more than, three days. In this relation also attention is drawn to the escape from fever of a small area in Mansfield itself which happens to draw its supply from a special reservoir which insures that the water has a longer period of delay before reaching the consumer than that which furnishes the bulk of the supply. Looking at the whole circumstances Dr. Thomson concludes that the evidence neither warrants the absolute exculpation of the water-supply nor affords ground for its definite incrimination. If, in fact, the water-supply was the causative agent it is clear that the infective material borne by it must have been either small in amount or of little virulence. Had it been otherwise the cases of enteric fever would have been counted, not by tens as was actually the case, but by hundreds. On either of these assumptions the escape of areas which got their water only after passage through a reservoir of comparatively large size would be consistent with the causation of the outbreak by water. In the one case the infecting material might have become so disintegrated and dispersed as to lose its power for harm; in the other, the delay in the reservoir might have caused further loss of virulence to the bacilli concerned.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 9039 births and 4816 deaths were registered during the week ending May 11th. The annual rate of mortality, which had been equal to 16·8, 16·0, and 15·9 per 1000 in the three preceding weeks, further declined to 15·7 per 1000 during the week under notice. During the first six weeks of the current quarter the death-rate in these towns averaged 16·5 per 1000, the rate during the same period in London being 16·1. The lowest rates in the 76 towns last week were 5·5 in Northampton, 7·6 in East Ham, 7·8 in Smethwick, and 8·1 in Hornsey; in the other towns the rates ranged upwards to 20·7 in Derby, 20·8 in Manchester, 20·9 in Preston, 21·5 in Coventry, 22·4 in Sunderland, and 23·8 in Salford. The 4816 deaths in the 76 towns showed a decrease of 69 from the number returned in the preceding week, and included 493 which were referred to the principal epidemic diseases, against 507, 532, and 530 in the three previous weeks; of these, 186 resulted from measles, 163 from whooping-cough, 50 from scarlet fever, 48 from diphtheria, 29 from diarrhœa, and 17 from "fever" (principally enteric), but not any from small-pox. No death from any of these epidemic diseases was registered last week in Leicester, South Shields, Halifax, Swansea, or in ten other smaller towns; the annual rates from these diseases, however, ranged upwards in the other towns to 4·0 in Birkenhead, 5·4 in Hanley and in Sheffield, 6·1 in Middlesbrough, and 6·6 in Bolton. The fatal cases of measles showed a slight decline from the high numbers in recent weeks; the highest annual death-rates from this disease were 4·0 in Birkenhead, 4·1 in Sheffield, 4·7 in Hanley, and 5·4 in Bolton. The deaths from whooping-cough, which had risen from 155 to 176 in the three preceding weeks, declined again to 163 last week, the mortality being equal to 1·5 per 1000 in Salford, in Oldham, and in Middlesbrough and 2·0 in Stockton-on-Tees. The fatal cases of scarlet fever exceeded the number in any previous week of this year, while on the other hand the deaths from diarrhœa were below the number in any other week for the past 13 months. Diphtheria caused three deaths in Reading, equal to an annual rate of 1·9 per 1000. Of the 17 deaths referred to "fever" two occurred in Barrow-in-Furness, equal to a rate of 1·7 per 1000. One case of small-pox remained under treatment in the Metropolitan Asylums Hospitals at the end of last week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2628, 2649, and 2672 at the end of the three preceding weeks, had declined again to 2658 at the end of last week; 349 new cases were admitted during the week, against 361, 360, and 346 in the three preceding weeks. The deaths referred to pneumonia and other diseases of the respiratory organs in London, which had continuously declined from 412 to 282 in the five previous weeks, further fell to 262 last week, but were 14 in excess of the average number in the corresponding week of the five years 1902–06. The causes of 46, or 1·0 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Bristol, West Ham, Newcastle-on-Tyne, Hull, Leicester, and in 47 other of the 76 towns; the proportion of uncertified deaths, however, showed considerable excess in Liverpool, Blackburn, South Shields, and Burton-on-Trent.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·6 and 19·9 per 1000 in the two preceding weeks, further declined to 19·3 per 1000 in the week ending May 4th, but exceeded by 3·6 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·9 in Aberdeen and 17·5 in Edinburgh

to 21·8 in Leith and 24·0 in Perth. The 671 deaths in the eight towns showed a decline of 19 from the number in the previous week, and included 110 which were referred to the principal epidemic diseases, against 133, 121, and 106 in the three preceding weeks. These 110 deaths were equal to an annual rate of 3·2 per 1000, which was double the rate from the principal epidemic diseases in the 76 English towns; they included 40 from whooping-cough, 36 from "fever," 15 from diarrhœa, 12 from measles, four from diphtheria, and three from scarlet fever, but not any from small-pox. The fatal cases of whooping-cough, which had declined from 55 to 44 in the four preceding weeks, further fell to 40 last week, and included 27 in Glasgow, six in Aberdeen, four in Edinburgh, and three in Dundee. The 36 deaths referred to "fever" showed a decline of ten from the number in the previous week, and included 22 in Glasgow, six in Edinburgh, five in Leith, two in Paisley, and one in Dundee; with the exception of four cases in Glasgow and one in Leith these deaths were attributed to cerebro-spinal meningitis. The fatal cases of diarrhœa, which had been 17, 12, and six in the three preceding weeks, rose again last week to 15, of which eight occurred in Glasgow, three in Dundee, two in Edinburgh, and two in Aberdeen. The 12 deaths from measles were six in excess of the number in the preceding week and included seven in Glasgow, three in Leith, and two in Edinburgh. Two fatal cases of scarlet fever and two of diphtheria occurred in Glasgow, and two of diphtheria in Aberdeen. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 103, 109, and 127 in the three preceding weeks, declined again to 107 last week and were slightly below the number in the corresponding week of last year. The causes of 26, or 3·9 per cent., of the deaths registered in the eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified deaths in the week under notice did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 33·5 and 26·4 per 1000 in the two preceding weeks, further declined to 24·0 in the week ending May 11th. During the first six weeks of the current quarter the death-rate has averaged 27·7 per 1000; the rates during the same period being only 16·1 in London and 18·1 in Edinburgh. The 180 deaths of Dublin residents during the week under notice showed a decline of 18 from the number in the preceding week, and included 17 which were referred to the principal epidemic diseases, against 29 and 14 in the two preceding weeks; of these, eight resulted from whooping-cough, six from measles, and one each from diphtheria, from "fever," and from diarrhœa, but not any from small-pox or scarlet fever. These 17 deaths were equal to an annual rate of 2·3 per 1000, the rates during the same period from the principal epidemic diseases being 1·5 in London and 2·3 in Edinburgh. The fatal cases of whooping-cough, which had been 15 and 10 in the two preceding weeks, further declined last week to eight; the deaths from measles showed a marked increase over the number in the preceding week. The 180 deaths from all causes included 37 of children under one year of age and 50 of persons aged upwards of 60 years; each of these numbers showed a slight increase. Four inquest cases and four deaths from violence were registered; and 64, or 35·6 per cent., of the deaths occurred in public institutions. The causes of seven, or 3·9 per cent., of the deaths in Dublin were not certified; in Edinburgh the percentage of uncertified deaths was 7·8, while in London all the causes of death were duly certified. The 174 deaths registered in Belfast during the week included 16 which were referred to cerebro-spinal fever or cerebro-spinal meningitis, showing a decline of nine from the number in the preceding week.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeon: F. G. Wilson to the *Hussar*, on completing.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel S. F. Freyer, Lieutenant-Colonel A. S. Rose, Major E. W. Slayter, Captain F. E. C. Robinson, Captain N. E. Harding, and Captain J. B. Weldon have arrived home from India. Captain B. B. Burke has joined at Woolwich. Major G. F. Alexander has been appointed to the medical charge of the troops of the 3rd Infantry Brigade at Aldershot.

IMPERIAL YEOMANRY.

Berks: Maurice Were Coleman to be Surgeon-Lieutenant (extra), under the conditions of paragraph 28, Imperial Yeomanry Regulations (dated April 15th, 1907). Sussex: John Robert Steinhaeuser to be Surgeon-Lieutenant (extra), under the conditions of paragraph 28, Imperial Yeomanry Regulations (dated March 27th, 1907).

VOLUNTEER CORPS.

Royal Garrison Artillery (*Volunteers*): 1st Cumberland: Samuel Edward Rigg to be Surgeon-Lieutenant (dated April 1st, 1907). 1st Forfarshire: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel W. Chalmers Cowan resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated April 3rd, 1907); Surgeon-Lieutenant H. C. Coleman to be Surgeon-Captain (dated April 3rd, 1907).

Royal Engineers (*Volunteers*): 1st (Sheffield) Yorkshire (West Riding): Joseph Mitchell Benson to be Surgeon-Lieutenant (dated March 26th, 1907).

Rifle: 4th Volunteer Battalion the Cameronians (Scottish Rifles): Surgeon-Captain N. Macnair resigns his commission (dated April 6th, 1907). 1st Volunteer Battalion the Hampshire Regiment: Supernumerary Surgeon-Captain H. M. Brownfield is granted the honorary rank of Surgeon-Major (dated March 4th, 1907). 1st Dumbartonshire Volunteer Rifle Corps: James Patterson Wilson to be Surgeon-Lieutenant (dated Feb. 28th, 1907). 6th Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant (Honorary Lieutenant in the Army) M. J. Mahoney to be Surgeon-Captain (dated April 10th, 1907). 2nd Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): William Duncan to be Surgeon-Lieutenant (dated March 26th, 1907).

DEATHS IN THE SERVICES.

Surgeon-Major Lancelot Armstrong, A.M.D., at Weston-super-Mare, on May 11th. He entered the service in 1854 as assistant surgeon, became surgeon in 1864, and retired with the rank of surgeon-major in 1876. He served throughout the Eastern campaign of 1854–55, including the reconnaissance on the Danube under Lord Cardigan. At Balaclava he commenced the ride with the Six Hundred but dismounted when men were falling and attended to the wounded under the fire of the Russian batteries (medal with four clasps and Turkish medal).

VOLUNTEERS AND AMBULANCE INSTRUCTION.

The annual dinner of the staff and members of the Volunteer Ambulance School of Instruction was held on May 10th at the Trocadéro Restaurant. Surgeon-Colonel P. B. Giles, V.D., the commandant, occupied the chair. Lord Methuen, in proposing the toast of "The Army Medical Department," said that had Mr. Haldane been present they would have availed themselves of the opportunity of impressing upon him the desirability of the corps being placed upon a proper footing and having a regimental system. Sir A. H. Keogh, in responding, said all that they asked was that they should be made a consolidated body. He believed that Mr. Haldane was in sympathy with them in that desire.

THE ARMY COUNCIL AND STERILISATION OF WATER.

The Army Council proposes to issue new filter water-carts to the home troops in order that they may be familiarised with methods of water sterilisation.

A MILITARY HOME HOSPITALS RESERVE.

The *Broad Arrow* states that with the sanction of H.R.H. the Prince of Wales the Chapter-General of the Order of St. John of Jerusalem has been in communication with the War Office as regards the formation of an organised body to be termed "The Military Home Hospitals Reserve," which will be recruited, so far as the medical staff is concerned, from the St. John Ambulance Association and from the St. John Ambulance Brigade, and, as regards other ranks, from the St. John Ambulance Brigade. Certificated pupils of the St. John Ambulance Association who may possess, or acquire, the necessary qualifications, as (*a*) compounders, (*b*) clerks, and (*c*) cooks, who are willing to volunteer, will be enrolled to fill those

ratings. The members of this reserve will not be expected to proceed on foreign service but the officers will be required to undertake the administration and the other ranks duties in various capacities of the home military hospitals in time of national emergency, thus enabling the officers and men of the Royal Army Medical Corps, who in time of peace are on duty at these establishments, to proceed at once to the field of operations. The following is the departmental committee of the ambulance department for the institution and development of a Military Home Hospitals Reserve: Chairman (*ex officio*): The Most Hon. the Marquis of Breadalbane, K.G., director, Ambulance Department. Vice-chairman (*ex officio*): Lieutenant-Colonel Sir Richard C. Temple, Bart., C.I.E., assistant director, Ambulance Department. Members: Sir John Furley, C.B.; Colonel Sir Herbert C. Perrott, Bart., C.B., chief secretary, Ambulance Department; Mr. Edwin Freshfield, LL.D., Receiver-General of the Order; Colonel Sir Charles Moore Watson, K.C.M.G., C.B.; Sir Dyce Duckworth, LL.D.; Inspector-General Belgrave Ninnis, R.N., Chief Commissioner, St. John Ambulance Brigade; Surgeon-General Sir Alfred H. Keogh, K.C.B., Director-General, A.M.S.; Surgeon-General Sir William Taylor, K.C.B., K.H.P., late Director-General, A.M.S. Honorary secretaries: Colonel Sir Herbert C. Perrott, Bart., C.B., and Surgeon-General Sir William Taylor, K.C.B., K.H.P.

ANTITYPHOID INOCULATION IN THE ARMY.

The *Journal of the Royal Army Medical Corps* for May is a very good number and the three first papers, which deal with antityphoid inoculation in the army, are of such an interesting and important nature as to call for detailed consideration. This, however, we are for the moment unable to accord to the subject and must consequently be content for the present to call special attention to the articles in question. The first is by Brevet-Lieutenant-Colonel W. B. Leishman, R.A.M.C., on the Progress of Antityphoid Inoculation in the Army. This is followed by a Report on the Results of Experiments in Connexion with Antityphoid Vaccination, by Major W. S. Harrison, R.A.M.C., and by a Report on the Outbreak of Enteric Fever and the Effect of Antityphoid Inoculation among the 17th Lancers, Meerut, India, by Lieutenant E. J. H. Luxmoore, R.A.M.C. Colonel Leishman gives a brief but lucid and interesting history of the system of protective inoculation against enteric fever in the army from its introduction by Sir A. E. Wright in 1897 up to the present time, inclusive of the facts connected with the occurrence of a severe epidemic of enteric fever in the 17th Lancers shortly after their arrival at Meerut in 1905 as set forth by the attached medical officer, Lieutenant Luxmoore. The evidence afforded on this occasion as to the protective effect of the inoculations was of a striking and exceptional kind and partook of the nature, and had consequently the value, of a scientific experiment. The history of the subject, the progress of antityphoid inoculation, and the latest observations in regard to it as set forth in the above papers strike us as interesting and instructive, as well as indicative of the hopeful progress that is being made.

Correspondence.

"Audi alteram partem."

A DEGREE IN MEDICINE FOR THE AVERAGE LONDON STUDENT.

To the Editors of THE LANCET.

SIRS,—At the recent senatorial elections of the London University the Graduates' Association carried by large majorities four of the five contested vacancies and in the other two instances its candidates were elected unopposed. It must also be remembered that it won both seats which fell vacant in October last. I was not returned last Tuesday but since I came out Sir Thomas Barlow has renounced, for a time at least, the concentration scheme and the union has pledged itself to maintain the standard of the degrees. These were the two main planks of my platform. Our object is therefore attained and I heartily thank the 343 medical members of Convocation who supported me with their votes and influence. With the present Senate there will be no lowering of the standard. How, then, is the average medical student in London to obtain a degree? It seems possible in one of two ways: (1) by reciprocity in the matter of examinations between the London University and the universities of the provinces and colonies, or (2) by the adoption of the one-portal system, carrying with it a degree or the title of Doctor.

I am, Sirs, yours faithfully,

London, May 11th, 1907. ERNEST W. WHITE.

LARGE VESICAL CALCULI.

To the Editors of THE LANCET.

SIRS,—In connexion with Mr. Littlewood's letter I may mention that about eight years ago at the Ancoats Hospital, Manchester, I removed (suprapubically) a calculus weighing nine and a half ounces, flattened ovoid in form, and *encysted* in the trigone to about half its periphery. It was a case presenting great difficulties, but was removed without "seeing" the peritoneum and the man made a perfect and rapid recovery. He was only 22 years of age and had been at active work up to the day on which he presented himself to my out-patient room. Sir Thomas Smith's operation, quoted by Mr. Littlewood, I well remember, as I was present at it; the man was a waiter and he, too, had been working almost up to the time of operation. He, I believe, had had some hæmaturia, my man had not. I have also in my possession a (double) *prostatic* calculus which weighed 552 grains which I also extracted at the same hospital by median perineal section. I believe this to be nearly a record weight for a prostatic calculus. If the Museum of the Royal College of Surgeons of England cares to have these specimens I shall be very pleased to forward them.

I am, Sirs, yours faithfully,

C. E RICHMOND, B.Sc. Vict., F.R.C.S. Eng., &c.

Stockton Heath, Warrington, May 12th, 1907.

RECOVERY OF MEDICAL FEES.

(FROM A LEGAL CORRESPONDENT.)

EVERY person registered under the Medical Acts is entitled to practise medicine and surgery in any part of His Majesty's dominions and to demand and to recover in any court of law, with full costs of suit, reasonable charges for professional aid, advice, and visits, and the cost of any medicines or other medical or surgical appliances rendered or supplied by him to his patients, but no person is entitled to recover any such charges in any court of law unless he can prove upon the trial that he is so registered. It is not, however, essential to entitle a medical man to maintain an action for attendances and medicine that he should be registered at the time when he gave such attendances and supplied such medicine, it is enough if he appears to be duly registered at the time of the trial, when he tenders proof of registration in evidence. Where a medical man is suing on a promissory note, given in consideration of professional services, it will be necessary for him to prove registration to entitle him to recover.

Where the chief medical officer of a foreign ship lying in the Thames engaged a foreign medical practitioner, domiciled and practising in England but unregistered, to take charge of the sick soldiers and sailors of that vessel (some of whom were on board that vessel and some on shore) during his temporary absence abroad, at a fixed monthly sum, it was held that the unregistered practitioner could not recover on such contract, for that the defendant, when he went abroad, was in the situation of an ordinary paymaster, and not the less so because he happened to be a medical man, and although the contract was made on board a foreign ship, yet by whatever law the contract was to be interpreted the remedy must be governed by the *lex fori*.

A copy of the Medical Register for the time being, purporting to be printed and published under the direction of the General Medical Council, is evidence in all courts that the persons therein specified are registered according to the provisions of the Medical Acts. In the case, however, of any person whose name does not appear in such copy, a certified copy under the hand of the registrar of the General Medical Council, or of any branch council, of the entry of the name of such person in the general or local register is evidence that such person is so registered.

Medicines and medical aid are necessaries for which an infant may contract and render himself liable, but a parent is not liable to pay for such necessaries furnished to an infant child without some proof of a contract on his part, either express or implied, and no such contract will be implied where the infant has been allowed a sufficiently reasonable sum for his expenses. In Cooper *v.* Phillips (4 C. & P. 581) A had several of his children residing in a house distant from his own in the charge of B, a servant. It was held that if an accident happened to one of the children A was liable to pay for his treatment, although he did not know the surgeon who was called in and although the accident might have arisen from the carelessness of the servant. It was held, also, that if B, the servant, becoming ill in consequence of the service, called in C, a surgeon, and after this A sends his own surgeon, and the wife of A knows of C's attendance and expresses no disapprobation A is liable to pay C for this attendance. A servant who hurt her foot in getting over a gate called in a surgeon who was not the regular medical attendant of the family without the knowledge of her master or mistress. It was held that the master was not liable to pay the surgeon's bill. In dealings between medical men and the guardians of an infant it should be remembered that, although the expenses of an extraordinary illness do not form part of the maintenance of an infant, strictly speaking, yet when there has been no extraordinary illness medicine and the medical men's fees must be included in the general allowance for past maintenance and the court will not allow the guardian to claim an extra sum for the same.

A master is not bound to provide medical assistance for his servant, but the obligation (if any) must arise from contract; nor will such a contract be implied simply because the servant is living under the master's roof nor because the illness of the servant has arisen from an accident met with in the master's services. But after July 1st a master or mistress will be liable in case of accident to a servant. A wife has an implied authority to bind her husband for reasonable expenses for medicine and medical attendances incurred during illness. But this implied authority is put an end to if a wife who is not living with her husband as part of his family commits adultery or if she leaves her husband's house of her own accord and without sufficient reason and the fact has become notorious or the husband has given sufficient notice that he will no longer be responsible for any debts which she may incur. If, however, a husband turns his wife out of doors without the means of obtaining necessaries, it is a presumption of law, which cannot be rebutted by evidence, that she was turned out with the authority of her husband to pledge his credit for necessaries, and in such a case medical attendances will be considered one of the most primary necessaries.

THE MILK-SUPPLY OF LONDON: SOME PERSONAL OBSERVATIONS UPON ITS RAILWAY TRANSPORT.

(FROM A CORRESPONDENT.)

IV.[1]

The Result of a Casual Inspection.—The Methods of the New York Milk-supply.—Suggestions for Reform.

MY investigation, as will be seen, in no sense claims to be an exhaustive one. I have simply made notes of a casual inspection. The number of special milk trains running to each terminus *per diem*, the quantity of milk carried to the terminus, and the proportion of milk left at peripheral railway stations and not brought to the terminus are matters that are all in a way germane to the subject, but I have not dealt with them. I am sure that the officials to whom these things are known would readily give the information to your representative; I have confined myself to talking of the conditions under which milk travels from the country to the London market. To a certain extent, however, the bulk of milk that has to be sent must be regarded, for the enormous quantity required produces difficulties of transport and distribution. Directly or indirectly, this is the reason why on any country platform near London at any time of the day, as well as on many London platforms, milk cans, usually unprotected by lock or seal, may be seen standing about. They are waiting till some train, some van, or some cart is at liberty to move them on a stage nearer the London gullet. The question is whether greater rapidity of transport might not be obtained by more orderly methods. At the present time, both in London and in New York, the two cities of the world approximating most closely in population, efforts are being put forth to improve the condition of the milk-supply. I have lived for many years in New York, and, indeed, have left it but a short time, and I had occasion when living there to make myself acquainted with the conditions of its milk-supply.

The inhabitants of New York city consume *per capita* far more milk than do the citizens of London. For whereas it is computed that London's daily consumption of milk *per capita* is about 0·20 pint, that of New York is, according to the authority of Dr. G. M. Whitaker,[1] considerably more than half a pint. Dr. Darlington, the Health Commissioner of New York, in January, 1905, estimated that the city's daily consumption of milk was 1,388,000 quarts, while an editorial article in the *New York Medical Record*, Feb. 16th, places the amount at 1,600,000 quarts daily. If either of these estimates be correct, then the quantity of milk taken into New York daily may exceed that carried into London daily, though London (meaning the county of London) is greatly the more populous area. The milk which is conveyed by rail to New York comes from several states, though the bulk of it is procured from New York State, and travels distances varying from 40 to 400 miles. The cans usually employed for carrying New York milk contain each ten gallons. These cans are carried by the farmers to milk stations situated near railroad stations, from which they are transferred to the trains regularly and promptly. The greater part of the milk sold in New York is distributed and retailed by dealers who own the railroad milk stations. One third or even more of the milk and cream delivered by the railways in New York is contained in bottles, after having been, as a rule, pasteurised at the railway milk stations. Such milk is generally sold to private companies, while the remaining two-thirds are sent to New York in cans to hotels, restaurants, institutions, and to grocery shops. It is worthy of notice that in New York proper there are 7000 grocery shops at which milk is sold.

The railway vans used for carrying milk to New York by the various railways differ from each other only in point of size and in a few matters of detail. They are constructed on a uniform plan. The milk trains are built on the corridor system and resemble the ordinary American "express" carriages, but the word "milk" is painted on each side of a carriage. These vans have no partitions, so that they can be easily kept clean. They are built on the principle of refrigerator vans, with double walls, a trap-door in the roof for taking in ice, and with openings for ventilation in the sides and at the bottom. Many of the milk vans are supplied with pipes, so that steam can be introduced to prevent the milk from freezing in the winter. In the summer the cars are systematically refrigerated. Some of the milk taken into New York by rail is as long as from 15 to 16 hours on the journey, numerous stops having to be made to collect milk *en route*, but it is an exception when this takes place. As a rule special milk trains are run to New York. Sometimes a passenger carriage is attached to a milk train, while occasionally on certain branch railways a milk van is attached to a regular passenger train, or even to a goods train, but when this happens the arrangement is only temporary, the milk van being transferred to a milk train at the nearest junction. Special milk trains running to New York travel at a higher rate of speed than the fastest expresses. Such trains always arrive in New York by night, generally between the hours of 10 and 11 P.M. Some of the milk carried by rail goes to New York proper, but the greater part is unloaded in New Jersey. There are no wharves used for unloading milk for New York. Milk, like many another commodity, is very much dearer in New York than it is in London, the railway charges for carriage being also higher. The New York Interstate Commerce Commission has fixed this rate, which is as follows: on ten gallon cans of milk up to 40 miles, about 1½*d.* per gallon; between 40 and 100 miles, about 1¾*d.* per gallon;

[1] Nos. I., II., and III. were published in THE LANCET of April 20th (p. 1116) and 27th (p. 1189), and May 11th (p. 1322), 1907, respectively.

[1] Bulletin of the United States Department of Agriculture, 1905, by Dr. G. M. Whitaker. This publication is full of information on the subject.

between 100 and 200 miles, about 1½*d.* per gallon; and 200 miles and over, about 2⅓*d.* per gallon.

What can be done in the State of New York could, it appears to me, be done in England. The difference of prices ought not to be an insuperable difficulty, for the present methods are not economical, and the same profits might be made by all concerned in the milk trade that are made now, after the removal of the obvious drawbacks of the existing system, or want of system, of which London in particular complains. Milk cans before they leave the dairy farms from which they are sent should be locked or sealed. This would not add to the cost of the milk appreciably. In a short time it would become a matter of routine on which practically no time would be spent. Whatever leads to the decanting of milk on railway platforms should be altered. The custom is absolutely dangerous and ought to cease at once. The number of special milk trains should be increased. The practice of carrying milk in the guards' vans of passenger trains should not be permitted. Some of the milk vans used by certain of the railway companies for bringing milk into London did not appear to me to be very well adapted for the purpose, but any special van, receiving special attention, is better than a guard's van or a luggage van. Passenger guards' vans which are used as milk vans by some railway companies are not adequately ventilated; they cannot be fit for the milk service if the weather be hot and the distance to be traversed be long. Perhaps in these circumstances they are never used, but if it was a uniform custom to convey all milk in a sanitary manner economy would result. Neither are open-boarded vans quite suitable for carrying milk for the reason that wet and dirt are easily admitted. As to the employment of refrigerating apparatus in milk vans, the general opinion seems to be that the distance which milk is carried by rail in England is not sufficiently long to render such a procedure necessary. Moreover, the use of chilling methods is becoming common in the larger dairies and is not, I believe, very expensive. When this is done milk can be carried in hot weather for long distances, and probably railways consider chilling a valuable precautionary measure to take against the risk of chemical change during transit, but here again a uniform method of refrigeration would be preferable. Chilling may be done at some dairies and not at others, but if all milk were carried in milk trains and kept artificially cool the risk of chemical change could be diminished to the vanishing point. Refrigeration in the railway train might possibly be done away with if the milk can was protected by means of a cover or outside lining made of some efficient non-heat-conducting material. The question of refrigerating milk while in transit on the railways in this country is, of course, of far less importance than in those countries in which the climate is warmer, and in which milk must be transported by rail for long distances. Nevertheless, many authorities are of the opinion that the subject is deserving of closer attention than has been paid to it hitherto. Dr. W. Collingridge, medical officer of health of the City of London, has stated emphatically that among other much-needed improvements tending towards the safeguarding of the milk-supply railway companies which carry milk should be compelled to provide special refrigerator vans for the purpose. Refrigerating methods are largely employed now in all the large dairies and milk should be chilled and kept at a proper and equable temperature from the time it leaves the dairy farm until it reaches its destination. Refrigerating vans can be provided at no great expense. If the railway companies found that there was a widespread demand on the part of the general public that refrigerator vans should be provided for the carriage of milk then such vans would be soon supplied.

The railways would probably have something to say as to the increased expenditure and might desire to raise the rates of carriage somewhat. But the rates charged for conveying milk to London, according to many of the farmers, are too high, while the railway companies contend that they are extremely moderate. The same rate is charged for milk transport by all the railways running into London—viz., 1*d.* per gallon. This rate compares favourably with the rate charged in the eastern part of the United States, but the milk there fetches a higher price. To the ordinary observer it seems probable that the railway rates are not much to blame. No one argues that the vendors of milk are specially oppressed and no one can contend that English railways are amassing large fortunes for their shareholders. What is probably to blame is the lack of system.

Is it foolish to hope that soon we shall see all our metropolitan milk conveyed in special trains to special sidings in circumstances that make contamination or chemical change well-nigh impossible? And would it not be well if the London County Council were to look into the American system of milk stations on the railways, where milk could be received from the farmer of the locality, kept in a proper manner, handled in a proper manner, and placed in a proper manner upon the special trains. I do not believe that such an orderly way of doing things would end either in the price of the milk going up or in the profits of the farmer, the purveyor, or the railway going down.

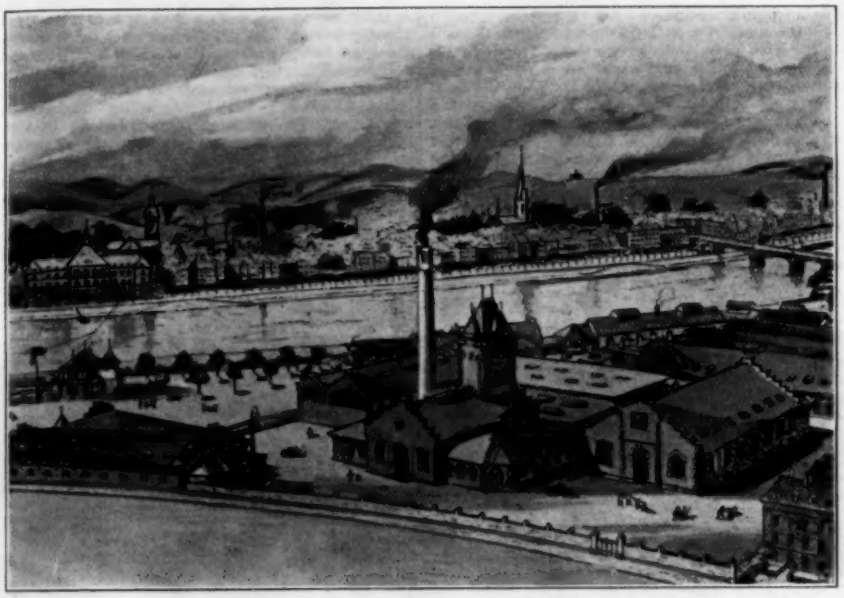
THE BASLE MODEL MUNICIPAL ABATTOIR.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE ancient town of Basle is familiar to many tourists who annually travel to Switzerland, though most persons content themselves with changing trains at its busy junction station. Basle is an important historic and cathedral town and has a population of close upon 100,000 inhabitants. It is situated on the banks of the Rhine and in the point of an angle or wedge of land thrust in between Alsace and the Grand Duchy of Baden. Thus German territory is within sight and an easy walk from Basle. Perhaps this proximity may help to account for the fact that at Basle the best and most novel German devices have been adopted in the newly built municipal slaughter-house. Indeed, it is not a long journey down from Basle to Mannheim or to Offenbach, which towns possess public abattoirs that are renowned throughout the world for their excellent installation. In Switzerland there have been public slaughter-houses, at least for the larger animals, for more than 200 years. At the present time it would be difficult to find a locality with more than 2000 inhabitants which has not its public slaughter-house. On the other hand, it must be confessed that many of these are very roughly built and have appliances of a very primitive description. Nevertheless, there is generally a veterinary surgeon in the neighbourhood who is supposed to control these places. Moreover, Article 31 of the Fundamental Laws of the Swiss Confederacy authorises the communes as a sanitary measure to render the use of the public slaughter-house obligatory. Some of the slaughter-houses have been built partly at the cost of a syndicate of butchers and partly out of the proceeds of local taxation. But in the larger towns—at Zürich and notably at Basle—modern slaughter-houses have been erected which may well serve as models for all countries.

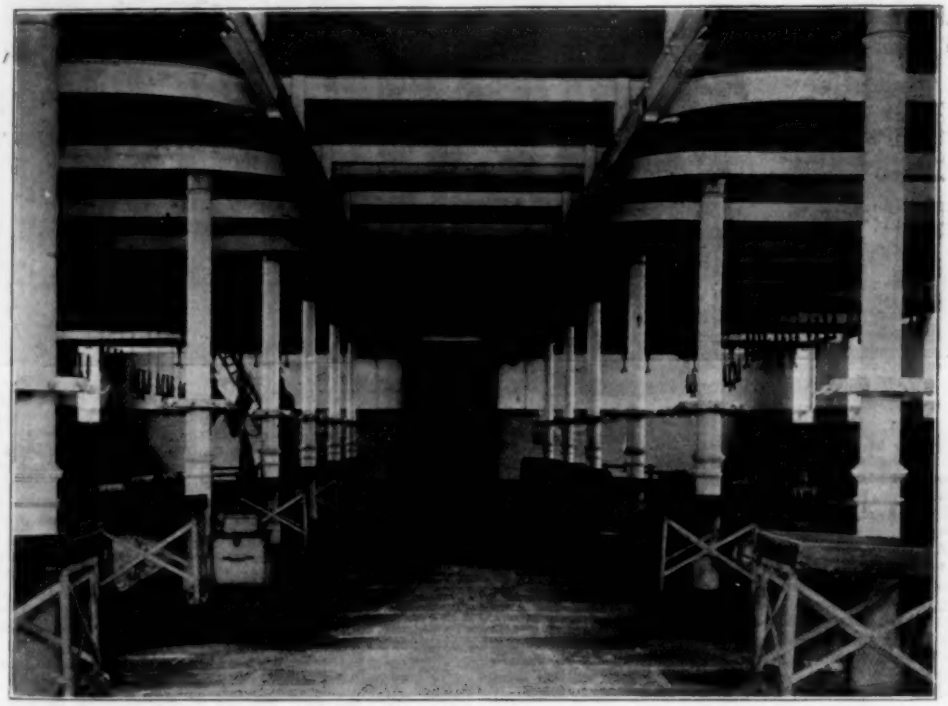
A public slaughter-house was built at Basle in 1870. It yielded a sufficient income to provide the annual contribution of 5 per cent. to the sinking fund. When the loan was paid off the desire was felt to reconstruct and to introduce cold storage—in fact, to have a perfect abattoir. To a large extent the experience of the town of Mannheim served as an example. The new Basle municipal abattoir was completed in 1903. The date, it will be seen, is sufficiently recent to admit of the introduction of the best and most modern improvements. Also the entire management is placed in the hands, not of commercial men, but of Dr. B. Siegmund, who administers according to the scientific and humanitarian point of view and not with a commercial object. The director of the Basle slaughter-house is an eminent member of the Society for the Protection of Animals, and in 1893 he made a present of his invention for the humane killing of animals to the society. Thus it is now public property, Dr. Siegmund having refused to make money out of what he contrived for humanity's sake. His object being to prevent pain, he considered that it would not be right to hinder the rapid diffusion of the system by adding to the cost a royalty for the inventor. Doubtless, the heads of abattoirs generally with their commercial instincts would look upon the director of the Basle abattoir as an incomprehensible Don Quixote not to accept any payment for a really ingenious and useful invention. But it is just because a truly scientific man places a scientific object far and above commercial interests that great institutions such as public abattoirs where the public health is held in trust should be governed by professional men whose objects and ideals are not tainted by financial considerations. These gentlemen

FIG. 1.



A bird's-eye view of the Basle municipal abattoir.

FIG. 2.



The Basle municipal abattoir. The slaughter hall for cattle. Note the overhead rails, the glazed brick walls, and the hollow window panes on the right hand side.

should, of course, receive a sufficiently liberal honorarium to secure them from monetary worries and thus to enable them to devote their scientific attainments and their time solely to the public service.

At Basle in the slaughter hall for horned cattle there is room for dealing with 28 bullocks at one time. The animal is quietly conducted up to the spot where all is ready to deal with the carcass when the animal is killed. Then the Siegmund mask is applied to its forehead. This consists of a brass disc about four or five inches in diameter. When this is placed on a bullock's forehead so that the edges of the disc do not protrude on either side, the aperture in the middle is just over the centre of the brain. Above the disc there is a sort of pistol barrel which, however, expands in the shape of a cup before it reaches the disc. This is to provide space for the gases when the cartridge is fired. The bullet traverses the brain and generally reaches the spinal cord. Death is instantaneous. It never fails; the aim must be correct on account of the size and shape of the disc. Fulminating cotton—that is, the official Swiss smokeless gunpowder—is used and the explosion makes very little noise. There is no need to tether the animals or, as when the mallet is used, to hold the animal's head down in a favourable position. The slaughterer quietly and gently places the smooth disc on the unsuspecting animal's forehead and the next moment it falls as if struck by lightning. Only men employed and paid by the municipality are allowed to slaughter. They are not urged to work quickly but in every way to prevent any unnecessary suffering.

The Bruneau and other masks where a nail is employed have been found untrustworthy. They certainly do occasion some loss of time, for there is a great leather mask that has to be strapped across the animal's head. In the centre of this mask there is a loose nail held in a socket, and this is struck with a mallet so that it penetrates the brain just at the right spot. But this apparatus is liable to get dirty, then the nail fails to penetrate properly, and it cannot be easily withdrawn as the bone closes round it so that occasionally this method which is intended to insure a prompt and painless death proves a ghastly failure. Also it undoubtedly takes time to strap the mask on and to unstrap it afterwards. With the Siegmund pistol mask all this trouble is avoided and the animal falls just where its carcass is required to be. The flooring is of course absolutely watertight, being made with cemented flagstones. The walls all round and up to a considerable height are of bricks with porcelain surface cemented together and equally watertight and non absorbent. Above there are a great multiplicity of rails and along the walls numerous hoists. It is only necessary to turn a handle and by an ingenious combination of cranks and cogwheels a heavy carcass can be promptly suspended. When ready the pulley runner and chain can be pushed along the overhead rails and the carcass goes from the slaughter hall to the cooling room. Close at hand are metallic receptacles for the offal and there are tables on wheels for any of the work which butchers have to do. Hose like a fire hose is ever ready for sluicing the floor, no dirt is allowed to remain, everything objectionable is at once cleared away. The most perfect cleanliness prevails throughout. On both sides there are windows but on the side where the sun shines a lozenge-shaped double glass pane is used. The space between the two panes is two to three inches wide. The advantage is that while letting the light through it excludes direct rays and heat. Thus a bright strong sunshine beating upon these windows barely raises the temperature 1° C.

Just outside this slaughter hall for the large cattle is what might be called the cooling passage which must not be confused with the cold storage or refrigerating department. The carcasses are allowed to hang for 24 hours in this passage. Here the temperature varies from 3 to 6° C. above zero. From this point an unbroken succession of overhead

FIG. 3.

The Basle municipal abattoir. The cooling passages, where carcasses are kept 24 hours before delivery to the butchers or consignment to the cold storage rooms.

rails enables the easy transference of the meat, either to be delivered to the butchers' carts outside or to the cold storage rooms that are close at hand. Here there are large cages with lock and key which butchers can hire at a rental of £10 per annum and keep their meat safely till it is wanted. There are, of course, registering dry and wet bulb thermometers. The thermometer on the day of my visit marked six-tenths of a degree Centigrade below freezing point. Here, as elsewhere, I noticed no odour save that of fresh meat. To realise how this low temperature is maintained throughout the summer it is necessary to visit the splendid boiler-house and engine-house. The power obtained is used to compress carbonic acid gas till it becomes liquid. Then when this is allowed to evaporate through pipes that are immersed in salt water the liquid is reduced to a temperature considerably below zero. The refrigerated salt water is then allowed to fall as a shower-bath in a room where air is collected to feed the ventilators. The dust is washed out of the air by the shower-bath and its temperature is lowered to about 3° below zero Centigrade, and the moisture in the air falls to the ground as snow. Thus a dry and cold air is obtained and ventilating fans propel it along shafts to the cold storage rooms. Other fans draw the air out from the cold storage room so that it may be washed and cooled again and mixed with a fresh supply of outside air. When the outside air is very damp then only a smaller quantity of it can be employed. In the engine room there is an observation instrument which records at all times the state of the temperature in different parts of the building. From this centre the temperature is regulated throughout. The enormous advantage of these scientific and mechanical appliances is that they render the whole process of slaughtering, of preparing, and of preserving meat independent of climatic considerations. The weather may be hot or cold, wet or dry, but the meat while at the Basle slaughter-house will not be affected by these atmospheric fluctuations.

(To be continued.)

SOME TURKISH LAZARETS

AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

(With Reproductions of Photographs taken by the Author.)

IV.[1]

THE CAMARAN LAZARET (*continued*).

The Six existing Cordons: their Dimensions and Contents.—A New Kind of Fencing Proposed.—Kitchens.—General Plan of the Lazaret.—Its Proposed Concentration by transferring the Fifth and Sixth Cordons to other Sites.—New (Seventh) Cordon for Arrivals by Samboük.—The Numbers of Pilgrims for whom Accommodation will be provided.

As already stated, there are six camps or cordons. These are inclosures of various sizes surrounded by a fence and containing a varying number of arishes, the "hospital," "doctor's house," and "house of distinction" mentioned already, fresh-water cisterns, latrines, &c. The position of the six camps is shown in the first of the accompanying sketch-maps of the lazaret. They are widely separated from each other, so widely that the whole length of the lazaret, from south to north, is about five kilometres, or, roughly, three miles. This great and unnecessary extension of the lazaret leads to many disadvantages. The work of the staff is much increased; time is needlessly lost in getting from one part of the establishment to another; the more distant camps are rarely used and the upkeep of the buildings they contain is badly neglected; the length of the railway and of the fresh- and salt-water pipes is enormously increased; in a word, the whole institution, instead of being compact and concentrated and easily supervised from the administrative centre, is exactly the reverse. In addition, the great length of the lazaret adds seriously to the difficulties of excreta removal under the system (to be described later) now adopted and increases the risks of removing the seriously sick from the more distant camps to the central hospitals.

For these reasons the Commission urges the diminution of the total length of the lazaret by about half. This can easily be effected by abandoning the present fifth and sixth cordons

PLAN II.

Sketch-plan of the Camaran lazaret in its actual condition. I. to VI., cordons for pilgrims. 1, machinery building; 2, laboratory and "parloir"; 3, offices and residence of staff; 4, fresh-water reservoirs; 5, arishes for "gardes"; 6, director's bungalow; 7, store; 8, bungalow; 9, houses for employees; 10, vice-consul's house; 11, lady doctor's house; 12, coal store; 13, brick-fields, &c.; 14, Tomb of Sheikh Iraki; 15, hospital; 16, small pox sheds; 17, 18, and 19, first, second, and third disinfecting pavilions; 20, "hospital" of fifth camp; 21, "hospital" of sixth camp; 22, latrine jetties; ..... railway.

(one of which, the sixth, is almost never used and the other rarely) and building a new cordon between the present third and fourth cordons, and another one to the north of the fourth cordon. There will thus still be six cordons. It will be necessary further to abandon the third disinfecting pavilion, or rather to transfer it to a spot near the land end of the third jetty (as described in an earlier article). The fourth jetty will also have to be abandoned, but this is of small consequence, because the jetty (as stated in Article III.) is useless in its present condition. Corresponding modifications would, of course, have to be made in the railway and in the water distribution. In the case of the latter there will be a saving of several kilometres of good iron piping.

Each cordon is, as already stated, surrounded by a fence.

[1] Nos. I., II., and III. were published in THE LANCET of April 27th (p. 1135), and May 4th (p. 1251) and 11th (p. 1317), 1907, respectively.

It is composed of thin wooden laths and is of the most unsubstantial character. In some camps (notably the fifth and sixth) it has tumbled down in parts or disappeared and not been replaced. It is clear that such a barrier has no real effect in keeping the pilgrims inside their cordons. All it can do is to serve as an indication to the pilgrims of the

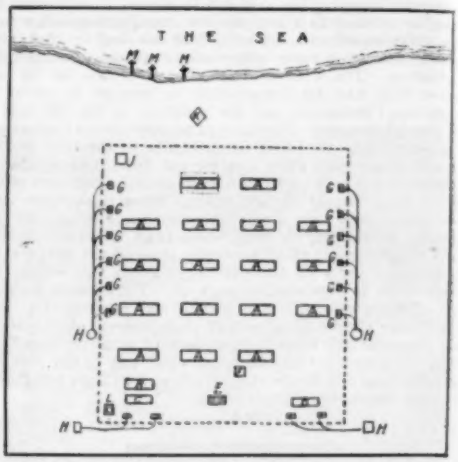
PLAN III.

Sketch-plan of the Camaran lazaret as modified by the proposals of the Commission. The figures indicate the same buildings as in the preceding plan, with the following exceptions: 19, third disinfecting pavilion on its new site; 20, inclosure for hospital for infectious diseases; 21, inclosure for small disinfecting pavilion; 22, inclosure for hospital for ordinary diseases; 23, new cordon for arrivals by sambouk; 24, new house for medical staff; 25, new houses for employees.

limits to which they are confined. Most of them it is probable have little desire to go beyond those limits; they are strangers to the island and to its native inhabitants and it is said that they rarely, if ever, try to escape from their camp. But it is certain that the "gardes" engaged in the Camaran village and interned with the pilgrims can, and it is probable that they do, communicate freely with their friends in the village. Moreover, should cholera or plague break out in a cordon there would be considerable temptation to the pilgrims to try to escape to other cordons. In any case "isolation" cannot be regarded as guaranteed with the present flimsy fencing; and the Commission proposes to surround each of the cordons at Camaran with a fencing similar to that adopted at Tor. This is composed of strong galvanised iron wire netting two and a half metres high, supported on wooden posts fixed in the sand; above the netting there are two or three rows of barbed wire and at its base a series of wooden planks running all round the cordon to prevent the pilgrims digging in the sand and creeping under the lower edge of the netting. This form of barrier is said to have given very satisfactory results at Tor.

The six cordons vary greatly in size. The first cordon is 167 by 150 metres and thus contains 25,050 square metres of surface. It lies on the shores of a bay, quite close to the sea, and but little raised above it. The ground plan of this cordon is shown in the accompanying sketch (Plan IV.). It

PLAN IV.



The Camaran lazaret. Plan of the first cordon. A A, Arishes. B, Sorting-house. C, Medical officer's house. D, Hospital. E, Cisterns. F, Kitchen. G G, Huts for w.c.'s. H H, Sewer-ditches. J, Superintendent's arish. K, Mosque. L, Water-tower.

contains 16 old-type arishes and one new type; the three "pucca" houses mentioned above; kitchen; 16 huts, with two water-closets in each; two fresh-water cisterns; salt-water tank or tower (as in all the other cordons), &c. There is room for three more arishes, bringing the total to 20, which would enable this cordon to lodge up to 1200 pilgrims.

The second cordon measures 150 by 104 metres and has 15,600 square metres of surface. It is situated on sloping ground, rising at its highest to several metres above sea level. It contains ten old-type arishes; two more could be added, which would enable this cordon to hold 720 pilgrims.

The third cordon measures 170 by 157 metres and has 26,690 square metres of surface. Like the first camp, it lies very low and is liable to inundation. It contains 19 arishes (18 old type and 1 new type); a twentieth could be added and this cordon could then lodge 1200 pilgrims.

The fourth cordon (482 metres to the north of the third) is 152 metres long and 130 wide, its superficial area being thus 19,760 square metres. It lies some 220 metres from the sea, on an elevated plateau which extends from here to the northern limit of the lazaret. It contains 10 arishes, all new type; two more could be added, and, as this cordon contains also the "specimen house" above described, it could lodge in all 780 pilgrims.

The fifth cordon lies no less than 772 metres to the north of the fourth; its length is 505 metres, its breadth 186, and its superficial area is thus 93,930 square metres. It is simply a vast area of desert, inclosed by a partly broken-down fence, and containing six old arishes and four new ones.

The sixth cordon is even vaster than the fifth, from which it is separated by a distance of 668 metres. It is 360 metres long by 330 wide, which gives a surface of 118,800 square metres. In this great square of desert there are no arishes; indeed, nothing is to be seen save the doctor's house and house of distinction, and 16 huts for water-closets. The "hospital" has been built on a cape 300 metres outside the camp. The fencing and the railway which once ran round the cordon are in a sad state of decay. This camp is almost never used; once in 1902–03 and once in 1903–04 pilgrims

were put in it but in both of the last two pilgrim seasons it has remained wholly unoccupied.

Besides the objects already mentioned most of these cordons contain a small arish for the head-guard (*chef garde*) and in some is an arish used as a mosque. A *bacal*, or seller of groceries and other articles, is always established in each cordon, sometimes in a tent, sometimes in an empty arish or elsewhere. The Commission recommends the construction in each cordon of a small special arish for the *bacal* and his store.

In each of the first four cordons there is a masonry structure intended to serve as a kitchen. It is composed of a wall 12 metres long and 5·60 metres high; at each end is another wall at right angles, so that the whole resembles a rather flattened capital H. Along both sides of the central wall are rows of brick fire-places. The arrangement is fairly well shown in Fig. 12. In the first cordon the whole structure

FIG. 12.

View of kitchen.

has been roofed in and surrounded by matting walls. This kind of kitchen has many drawbacks; the enormously high middle wall gets intensely hot with the heat of the fires and of the sun; it is even worse in the first cordon, where the matting roofs and walls, though they shade from the sun, prevent free escape of the smoke. The Commission considers that there is, as a matter of fact, no need to build costly structures of any kind as kitchens. Most of the pilgrims carry with them small portable "kitchens," such as those seen in Fig. 13; those who have not are quite con-

FIG. 13.

Pilgrims cooking their food on portable "kitchens."

tent to build a fire over a hole in the sand on two or three bricks, or in some other equally primitive but effective manner.

The general plan of the lazaret.—Having studied the unit (the pilgrims' houses), and the arrangement of these units in cordons, it will be convenient now to speak of the general plan of the lazaret. It consists, as already stated, of the so-called "central" administrative buildings and of the six cordons. The former are not really central at all, being built at the southern extremity of the whole institution. This is regrettable in some ways, as it would be much easier to supervise the whole were the administrative blocks somewhere nearer the centre. But this would be almost impossible of attainment now. The present plan has been a natural growth; the offices had to be near the landing stages in the bay; the central reservoirs for the water-supplies had to be at the same time near the sea (for the intake) and on high land (to get sufficient pressure), and these conditions are only found on the northern shores of the bay. The present plan therefore (that is, six cordons in a row and the administrative buildings at one end) will be more or less retained. But the drawbacks inherent to such a plan will have to be diminished as much as possible. As the Commissioners state in their report, one extremity of the lazaret suffers from a grave anæmia, if not an irremediable gangrene, on account of its distance from the heart of the institution; and as the heart cannot be moved nearer the extremity the latter must be brought nearer the heart. In other words, the cordons must be concentrated. The manner in which this can be done has been already indicated. The fifth and sixth cordons must be abandoned, others being built between the third and fourth, and to the north of the latter, to take their places; and as a corollary the third disinfecting block must be transferred to the spot already indicated and the necessary modifications made in the landing-stages, railway, and water-supplies.

The lazaret as it will be after these works have been carried out is shown in Plan III. It will be seen that the general symmetry of the institution will in no way suffer, while in compactness and in every other respect it will gain greatly. The two new cordons will be of about the same dimensions as the existing first camp. It is proposed to arrange the new sixth cordon in a special manner for the reception of pilgrims from an actually infected ship.

In addition to the six cordons, so frequently mentioned above, the Commission proposes to have a seventh, to be reserved for arrivals by sambouk or other kind of sailing ship. These arrivals are rarely numerous and it will suffice to provide a small cordon capable of holding a maximum of 250 pilgrims. A good site exists a little to the south of the first cordon and it is here that the Commission proposes to set up the new cordon. Hitherto arrivals by sailing ships have been placed under tents and in no properly fenced-in cordon. This, which is, to say the least of it, irregular, will now be remedied.

A word may be said here as to the numbers of ships and of pilgrims usually in quarantine at a time in Camaran. The Commission has prepared and annexed to its report five large diagrams, showing in a graphic manner the daily movement of the lazaret during each of the last five pilgrim seasons. In these diagrams there are thin vertical lines to show each day of the year, and the stay of every ship in the lazaret is shown by a horizontal thick line, beginning on the day of the ship's arrival and ending on the day of her departure. In this way it is possible to see at a glance how many ships were in quarantine simultaneously on any given date; and the number of pilgrims being inserted against each horizontal line a simple sum in addition suffices to show the total number of pilgrims in quarantine at any moment. From these diagrams it appears that there are very rarely more than six ships at Camaran at a time. Occasionally there have been seven, eight, and even nine, but when this has happened it has usually been for only a few hours and experience has shown that the six large cordons are practically sufficient. In the five years in question (in two of which the pilgrimage was exceptionally largely attended) the total number of pilgrims interned at the same time reached at one moment 6499. For most of the time the total rarely exceeded 5000 and was usually much less. With the six large cordons and the small one for arrivals by sambouk the lazaret will be able to hold 6550 pilgrims, as shown in the following table:—

First cordon	1200	pilgrims.
Second cordon	720	"
Third cordon	1200	"
Fourth (new) cordon	1200	"
Fifth (actual fourth) cordon	780	"
Sixth (new) cordon	1200	"
Small cordon for arrivals by sambouk ...	250	"
Total	6550	

The present year's pilgrimage is likely to be one of the

most numerously attended for many years past owing to the removal of the five days' preliminary observation of Indian pilgrims before sailing from Bombay. It is possible, therefore, that this total may be slightly exceeded; in that event, the excess number of pilgrims will have to be placed under tents.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

SEVERAL valuable gifts and offers which have recently been made to the University were notified and accepted at a recent meeting of the council. The botanical museum has been enriched by the collection of fungi made by Dr. Charles B. Plowright of King's Lynn, which comprises between 4000 and 5000 species. This gift was offered by some "Friends of the University." The Rev. C. Owen Pickard, Cambridge, has presented a valuable collection of British spiders to the zoological museum. The collection includes 300 species of true spiders and a number of other arachnids. The zoological museum has also received from Mr. George Copely a collection of corals and shells from the Philippine Islands. This collection contains a large number of important, valuable, and rare specimens. Sir John Holder has offered £1000 to be used for the purpose of filling in, with stained glass, the fine window at the south end of the great hall in the new buildings; and the contractor for the Bournbrook Buildings, Mr. Thomas Rowbotham, has offered to provide a clock and chimes for the great tower which is in the process of erection. It is probable that the clock and chimes will cost about £2000.

The Ingleby Lectures.

Dr. Thomas Wilson, who has been appointed Ingleby lecturer for the year, delivered the first of his lectures on May 9th. He pointed out that the lectures were established in 1876 in connexion with the Queen's College and were intended to promote the advance of obstetric surgery and medicine, which were the branches of medical science with which Dr. Ingleby was intimately associated. He drew attention to the sound judgment and close personal observations shown in Dr. Ingleby's writings and pointed out that he was the first medical man to practise obstetric surgery in Birmingham. Dr. Wilson chose as the subject of his lectures Inflammations of the Uterine Appendages and he dealt with them mainly from the point of view of his personal experience at the General Hospital and in private practice. He classified the inflammatory affections of the organs mentioned in two groups, the catarrhal and the purulent, and he laid stress on the insidious nature of the onset in many cases, and more especially when it was associated with scarlet fever infection. He also drew attention to the long periods of quiescence not uncommonly associated with collections of pus in the female generative appendages, and he pointed out that the pus in these quiescent conditions was usually sterile. In his second lecture he is to deal with diagnosis and treatment.

Queen's College.

Queen's College, which has passed through many vicissitudes, is to be closed as an educational institution, at all events for a time. This is much to be regretted, for the institution has had a long career and it has been the means by which much good work has been done. It was initiated by a Birmingham surgeon, Mr. William Sands Cox, who induced his medical friends to establish a medical school. This was first housed in Temple row and afterwards in Snow-hill, and by the efforts of the Rev. Dr. Warneford a theological faculty was established. In 1843 the foundation-stone of a new home in Paradise-street was laid and in 1845 a Royal Charter was granted to the institution under its present name. Its fortunes varied, and in 1892 the medical school was removed to Mason's College whilst Queen's College became a purely theological institution. A few years ago it was decided to reconstruct the college at a considerable cost and the present building was opened about two years ago. When the reconstruction was carried out it was hoped that the rents of the various sets of rooms and offices would form a valuable source of income; unfortunately, this hope has been delusive; and as the income has proved to be insufficient it is stated that the council has decided to close the educational portion of the college, and it is suggested that a considerable portion of the building should be let to the University as a residential hostel for students. This will probably be done and the University will thus have the opportunity of gaining experience in the management of a hostel for men before it decides to erect a building specially for the purpose.

The Open Spaces Association.

This association, which has already done much excellent work in securing air spaces for our somewhat crowded city, is now making an attempt to acquire 20 acres of the well-known "black patch" which lies on the boundaries of Birmingham and Smethwick. If the land is not secured now there is no doubt that it will fall into the hands of the builder and be covered with as many houses as the local by-laws will allow. It is to be hoped, therefore, that the association will be able to obtain the money that it requires, which appears to be a sum of £9000, for it is said that the owners, Messrs. Tangye and Messrs. Pilkington, will sell the land which the association wants for £10,000 and that each firm will give £500 towards the fund for purchase. If the association succeeds in acquiring the land it is probable that part of it will be used as a park, part as a playground, and some portion may be used for allotments.

Annual Report of the Public Analyst.

On the whole the report of Mr. Liverseege for the year 1906 cannot be considered satisfactory, for it appears that adulteration increased as compared with the previous year. The number of samples examined under the Sale of Food and Drugs Act was 1480 and of these 2·3 per cent. were adulterated with preservatives only, and 11 per cent. in other ways. The increasing use of adulterants affected milk as well as other foods, and of the samples taken 5 per cent. were found to be adulterated with preservatives, as compared with 3 per cent. in the previous year, the preservatives used being boric acid and formic aldehyde. It is possible that the new system of taking repeated samples has had something to do with the discovery of a larger percentage of cases of adulteration, for it is stated that in some shops the stranger purchasing butter receives butter, whilst margarine is given to the regular customers.

Bequests to Medical Charities.

By the will of the late Miss Sarah Maria Stokes of The Hawthorns, Edgbaston, £7450 are devoted to medical charities in Birmingham. Four hospitals are to receive £1000 each—i.e., the General, the Queen's, the General Institution for the Blind, and the Ear and Throat Hospital. Six will receive £500 each—the Children's Hospital, the Women's Hospital, the Eye Hospital, the Orthopædic Hospital, the General Dispensary, and the Birmingham and Midland Counties Idiot Asylum. The Royal Institution for the Deaf and Dumb is bequeathed £250 and the Skin and Lock Hospital £200. The General Hospital, the Queen's Hospital, and the Children's Hospital also benefit by the will of the late Mr. Alfred Hill of Hagley-road, under which they receive £50 each.

May 14th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Sanatorium for Tuberculosis at Heswall; Sceptical Guardians; the Paupers' Tobacco.

THE select vestry of the parish of Liverpool, at its meeting on May 7th, appointed four representatives upon the committee of the Liverpool, West Derby, and Toxteth Park joint hospital for tuberculous patients at Heswall. It appears that a number of the members of the vestry are sceptical as to the value of the benefits of the hospital. They affirm, and not without reason, that many of the patients are in the last stages of the disease before seeking admission to the institution. The experiment is a decidedly costly one and is a charge on the parishes to the tune of £2 6*s.* 3½*d.* per head per week. If the patients cannot be induced to enter the sanatorium in the early stage of the disease it seems obvious that it is a waste of the ratepayers' money to maintain an institution which hitherto has not been an unqualified success. The work might probably be of a more hopeful character if the sufferers applied for admission at a comparatively early stage of the disease. In

the case of a working man with a family dependent on his exertions for a livelihood it cannot be wondered at that the dread day is too often postponed.—Mr. William Crosfield (the vice-chairman) drew attention to the fact that last year's tobacco bill for aged inmates at the Liverpool workhouse amounted to £906, and he expressed the fear that this liberality on the part of the workhouse committee in the matter of the soothing weed had a tendency to attract many old men to the workhouse who otherwise would not be anxious to seek refuge within its walls. As only inmates of over the age of 60 years are entitled to the luxury Mr. Crosfield's view in the matter failed to meet with the endorsement of his fellow members.

University of Liverpool: New Lectureships.

Dr. W. H. Broad has been appointed lecturer in physical anthropology and Mr. J. K. Catterson Smith assistant lecturer and demonstrator in electro-technics.

Lancashire County Council; Health of the County; The Midwives Act; Extraordinary Food for Infants.

The chairman of the public health committee said that the death-rate of the county was higher than it had been for some time in consequence of the prevalence of respiratory diseases and influenza. 12 cases of small-pox had been notified during the quarter, against 23 in the previous quarter. The county had not been free from small-pox for two years and he thought that it was time it was. Five deaths had occurred from "spotted" fever, but judging from the report of the medical officer there was no reason for fear on that account. The report of the Midwives Act committee showed that the number of certified midwives on the county register on March 31st was 1081. The number of women qualified by examination was gradually increasing. Several cases of negligence or misconduct had occurred during the past quarter and the committee had instructed the medical officer of health to communicate with the midwives concerned drawing their attention to the necessity of a strict compliance with the rules of the Central Midwives' Board. Attention was drawn to the appalling ignorance prevailing regarding the feeding of infants. There was one case in which an infant, one month old, was fed on beef-steak and liver. The child died. Another infant of nine weeks was given black-pudding and whisky and a week later rabbit-pie, and still survived, "a monument of the inherent strength of the British constitution."

Health of Liverpool: Not Free from Small-pox.

The death-rate last week was 19·4 per 1000, as against 27 per 1000 a year ago. The fall in the death-rate appears to be due to fewer cases of measles and whooping-cough. There were 541 cases of infectious diseases in the corporation, including seven cases of small-pox. As Liverpool is probably the best vaccinated city in the kingdom there need be no cause for alarm on account of the occurrence of those cases.

Appointments at Chester Infirmary.

At a meeting of the election committee of the infirmary held last week Dr. E. Cyril Dobie was appointed honorary assistant surgeon and Dr. A. Douglas Hamilton, honorary assistant physician.

May 14th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

A Proposed Joint Appointment of Medical Officer of Health in Monmouthshire.

A CONFERENCE has been called of representatives from the urban district councils of Abercarn, Abertillery, Bedwellty, Ebbw Vale, Nantyglo and Blaina, Tredegar, and Risca in Monmouthshire, and of Brynmawr in Breconshire to consider the practicability of appointing a medical officer of health who should act jointly for these districts which adjoin each other and are situated on the western boundary of Monmouthshire and in Breconshire. The population of these districts at the last census was 114,000 and it is now about 140,000. The area is 46,000 acres. The combined salaries of the present medical officers of health amount to just over £400 a year. They are all in private practice. In the event of a combination being effected it is to be hoped that the Local Government Board will not sanction the payment of a commencing annual salary of less than £600, and that an adequate sum will be given for expenses caused by travelling about the district.

Sanitary Inspection in Bridgend.

It was not until the ravages of the typhoid fever epidemic in 1905 had emphasised the necessity that the Bridgend urban district council acted upon the advice of its medical officer of health, Mr. Wyndham Randall, and appointed an assistant inspector of nuisances, who was instructed to make systematic examinations of house drains. The justification for his appointment is seen in the fact that out of 605 houses inspected notices were served with respect to unsatisfactory drainage in 505. The district council will be well advised if it makes this appointment a permanent one. It ought not to be lulled into a sense of false security owing to the very favourable records for the year 1906. In that year there were only four cases of typhoid fever, and these were all non-fatal, compared with 117 and 16 deaths in 1905. Bridgend has a population of about 7000 persons.

Unqualified Dental Practice in Cardiff.

Cardiff can hardly be described as a happy hunting-ground for unqualified dentists. A few months ago one of these gentlemen was fined by the stipendiary magistrate for holding himself out as a qualified practitioner. The magistrate held that as the defendant in the case advertised that he extracted teeth painlessly he therefore ascribed to himself very special skill and the general public would consider him to be regularly qualified to practise. Quite recently another unqualified practitioner was sued in the county court for damages. The patient who brought the action asserted that several of her teeth had been so unskilfully extracted that she had not only already suffered great pain and inconvenience but would probably continue to do so for some time. The county court judge gave her damages to the amount of £25. A very unsatisfactory feature in this case was the admission by a young woman that she was a paid tout and had introduced the patient to the defendant.

Sewage of Bath.

The Bath corporation has very prudently decided to admit that the sewage of the city enters the river Avon and to consider the best method of dealing with the sewage in order to prevent the pollution of the river. The threatened proceedings of the county council under the Rivers Pollution Act will therefore be postponed indefinitely.

Insanity in Herefordshire.

The spring meeting of the south-western division of the Medico-Psychological Association was held at the Hereford County Asylum, when the medical superintendent of that institution, Mr. C. S. Morrison, read a most instructive paper upon the increase of insanity in agricultural districts, with special reference to the county of Hereford. After commenting upon the large amount of migration from the county, leaving as stay-at homes persons characterised by inertia, apathy, and but little capacity for sustained effort, he pointed out that Herefordshire held a unique position as regards the marriage-rate, for in 30 years this rate had remained stationary, whereas in all the counties of England and Wales except four it had fallen. In England and Wales the legitimate birth-rate had fallen from 292 per 1000 married women at conceptive ages in 1870 to 223 per 1000 in 1905. In Herefordshire during the same periods the legitimate birth-rate had fallen from 285 per 1000 to 223 per 1000, showing in conjunction with the unaltered marriage-rate that the fertility-rate in Herefordshire was considerably below that in other parts of the country. Reference was also made by Mr. Morrison to the low rate of infantile mortality in Herefordshire, which had fallen from 131 per 1000 births in 1870 to 85 per 1000 in 1905, and he stated that the Commissioners in Lunacy for Scotland had found by an analysis of the figures for the census year 1901 that the greatest number of congenitally deficient persons received into the district asylums of Scotland came from rural areas with the lowest infantile death-rate. The same condition has been found in Herefordshire, where the proportion of persons of unsound mind has risen from 35 per 10,000 of the population in 1871 to 55 per 10,000 in 1905. In England and Wales during the same period there was a rise from 21 per 10,000 to 32 per 10,000.

Royal United Hospital, Bath.

At a meeting of the committee of the Royal United Hospital held on May 6th it was stated that the late Dr. Thomas Jarvis Bennett, formerly of Tunbridge Wells, had

bequeathed the whole of his estate, subject to certain legacies and the life interest of his wife, to the institution. The chairman stated that this would amount to £20,000, and Dr. Bennett directed that the legacy should be devoted to the augmentation of the permanent endowment of the hospital. It was mentioned that this gift will in no way affect the effort now being made by the Mayor of Bath to extinguish the present debt of £6000 owed by the institution.

The Workmen's Compensation Act.

At the Frome (Somerset) county court, before his honour Judge Gwynne James, sitting as arbitrator, a pork butcher's assistant recently made a claim against his employer under the Workmen's Compensation Act. Evidence showed that in October, 1906, the applicant sustained a strain while lifting a heavy ham, and that in consequence of this he obtained medical advice and shortly afterwards was admitted as an in-patient to the Frome Hospital. Medical evidence showed that when the applicant was at that institution the diagnosis was made that it was a doubtful case of traumatic subclavian aneurysm. Evidence was also given by the medical witnesses who examined the applicant on April 24th and formed the opinion that he had no aneurysm but was suffering from nervous debility. After a hearing which lasted four hours his honour decided in favour of the applicant.

Bristol General Hospital.

A public meeting was held at the Bristol Guildhall on May 7th, under the presidency of the Lord Mayor, for the purpose of raising £18,000 for the greatly needed improvements which are being made at the Bristol General Hospital. It was announced that £13,116 have been already promised and it is hoped that the remainder, about £5000, will be obtained shortly.

May 13th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Scottish Association of Medical Women.

A SPECIAL meeting of the Scottish Association of Medical Women was held in Edinburgh on May 11th, when a discussion took place on the remuneration of posts held by medical women. In the course of the discussion various cases were cited in which medical women were holding posts at insufficient salaries, and it was pointed out that there was a tendency on the part of public bodies as well as among private practitioners when opening posts to medical women to fix the rate of remuneration at a lower level than would be considered sufficient in the case of medical men. After considerable discussion a motion was carried to the effect that in the opinion of the association it was undesirable that women should accept posts at a lower salary than that offered to men previously holding the same, and that in the case of new posts the association considered it detrimental to the interests of the profession that such posts should be taken by medical women at salaries which would not be accepted by men. A discussion also took place on the desirability of forming a central information bureau for the benefit of women graduates in medicine and it was decided to appoint a committee to consider whether such a scheme was practicable.

Memorial to Principal Story.

At a meeting of the subscribers to the memorial to the late Principal Story held last week it was reported that the fund amounted to £10,000. It was recommended that in accordance with the strongly expressed wish of the relatives a memorial window should be erected in the Bute Hall at the University of Glasgow. The recommendation was approved by the meeting and it was agreed that the balance of the subscriptions should be handed to Mrs. Story and the Misses Story.

An Interesting Case of Anthrax.

A case of anthrax has occurred at Tullialan which is giving arise to much interest in veterinary and medical circles. The animal involved was a cow which was found on post-mortem examination to have died from anthrax. As the cow was suckling a calf the effect of the mother's milk on the youngster is to be watched closely, in the hope of ascertaining the effect of an anthrax-infected cow's milk.

Cerebro-spinal Fever.

Two cases of suspected "spotted fever" have occurred at New Elgin. The patients are two young girls, aged ten and 17 years respectively. A case has occurred at Perth Barracks, the patient being a young man who only five weeks ago joined the army. The soldier, who belongs to Montrose, has been removed to the fever hospital, where he lies in a critical condition. A fresh outbreak has occurred at Forfar, two cases and one suspected case having been notified to the authorities. One of these, a young lad of 14 years, has since died in the County Hospital. On May 10th a boy from Cellardyke was admitted into the district infectious diseases hospital at Overstone, East Fife, suffering from "spotted fever." This is the first case that has happened in this district. Three deaths from cerebro-spinal fever have occurred in Dundee Royal Infirmary. The first case was that of a young ploughman hailing from Forfar. This patient had been attending at the out-department for some time, and towards the end of last week reported himself as usual. He then proceeded to visit a relative in Broughty Ferry where he was seized with illness and developed the symptoms of the disease. In the other two cases the victims were children. The distinctive organisms of the disease were found in all three cases.

Aberdeen Infirmary: Handsome Gift from Lord Mountstephen.

The Aberdeen Infirmary has again benefited by the generosity of Lord Mountstephen to the extent of £10,000. In 1902 he gave securities yielding £1000 annually, and to that this gift is supplementary in so far as an opportunity having arisen of extending that investment on favourable terms he has most generously provided the necessary funds. The managers are thus enabled to take advantage of the situation and the thanks of the community are due to the kindly benefactor of this useful institution.

A Remarkable Outbreak of Tuberculous Disease in a Highland Family.

Dr. John Macdonald, county medical officer of health of Inverness-shire, in his annual report draws attention to a remarkable outbreak of tuberculous disease which took place in the family of a crofter at Tarbert, Morar. This man had lived in the same house for 21 years. His household consisted of himself, his wife, and 12 children, whose ages ranged from two to 21 years. In April, 1906, the eldest girl, aged 21 years, came home from service with a suppurating finger, developed pulmonary symptoms, and died on May 26th from tuberculous meningitis. In November of last year, another daughter, aged 14 years, was found to be suffering from pulmonary tuberculosis. She died on Jan. 8th of this year. During the time that this girl was ill it was found that the father was suffering from suspicious lung trouble, that the mother was suffering from tuberculous disease of the ankle-joint and possibly of tuberculous disease of the abdomen, and that two other daughters, aged 20 and 10 years respectfully, and the baby had distinct signs of pulmonary tuberculosis. The baby died on Jan. 3rd, and the daughter aged ten years died on Jan. 10th, after an illness of three weeks. The mother was removed to the Western Infirmary, Glasgow, where she died. The father died at the end of February. Two other members of the family have developed pulmonary tuberculosis. There was no family history of consumption, no ill-health had occurred previously to April, 1906, and there was very little expectoration in any of the cases. The house consisted of two apartments, with stone walls, thatched roof, and clay floors; it was very damp but was kept in excellent condition.

May 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal University of Ireland.

THE Senate of the Royal University met on May 9th when the warrant under the Royal Sign Manual was read appointing Mr. Michael Finucane, M.A., C.S.I., to be a member of the Senate. On the motion of Dr. B. C. A. Windle, seconded by Dr. R. W. Leslie, it was unanimously agreed to re-elect Sir Christopher Nixon, Bart., as the representative of the University on the General Medical Council. On the unanimous recommendation of the standing committee it was resolved to confer the degree of LL.D. *honoris causâ*

upon Dr. Windle, President of the Queen's College, Cork, and upon the Right Rev. Monsignor Mannix, President of St. Patrick's College, Maynooth.

Limerick District Lunatic Asylum.

At a meeting of the board of the Limerick Lunatic Asylum held on May 8th, Mr. E. D. O'Neill, resident medical superintendent, furnished his report of the working of the institution to the close of last year. There had been an increase in the number of patients, the highest number having reached 670, while the accommodation was intended for 550. He considered the increase largely due to intemperance and to the condition of the houses of the working population. It was unanimously agreed to have the report printed and circulated.

Royal College of Physicians of Ireland.

The annual presidential dinner of the Royal College of Physicians was held on May 9th, Dr. Joseph M. Redmond, the President, being in the chair. The Lord Lieutenant was present with many other distinguished guests, and the toast of "The Guests" was responded to by the Master of the Rolls and the Rev. William Delany, S.J.

House Sanitation in Belfast.

The deplorable condition of many houses in Belfast, as demonstrated in evidence submitted to the Health Commission now sitting as well as by the personal observations made by the members of that inquiry, has at last roused the public health committee, and at the weekly meeting of the latter body on May 9th it was decided, after hearing a report on the matter from the medical officer of health and from the chief officer of the house-cleansing department, to appoint a subcommittee to take into consideration the desirability of adopting the cleansing of houses fortnightly and to prepare by-laws and to advise as to the provision of ashbins and other matters associated therewith. Lord Shaftesbury (the Lord Mayor) raised the question as to the state of many of the back passages and said, in his opinion, it was most important that these should be seen to and put into such a condition as would enable them to be not only thoroughly cleansed but flushed regularly with a hose-pipe. This recommendation was then added to the resolution. It is deplorable to think that in Belfast it was not until 1902 that the systematic removal of refuse began. Previously to that the householders had actually to pay 1*s.* per load to have this done, and there can be no doubt that the very existence of ashpits (not frequently enough cleaned out), dirty back passages, and houses not properly cut off from the ground air and moisture has in the past been an immense cause of disease. By placing these facts clearly before the public the Health Commission has done immense good and has galvanised the health committee into facing problems which have been settled long ago in English and Scotch towns but which otherwise would never have been touched in Belfast.

Belfast Health Commission.

The Health Commission resumed its sittings in Belfast on May 13th when the assistant city surveyor and the executive sanitary officer were examined. The evidence of the latter showed how deplorable is the knowledge of the public health authorities as to insanitary houses in Belfast, for when the chairman of the Health Commission asked questions in reference to such dwellings actually inspected by members of the Commission the witness said that he had no knowledge of them or they had not been reported, whereupon the chairman said: "I want to impress upon you that there is no chance of remedying these evils if you have no knowledge of them, and if you have no knowledge of them how can the public health committee have knowledge of them? It seems to me that the whole organisation of your department requires reconsideration." Witness also said—in reply to the question, "What duties are there in which you do not regard yourself as subordinate to the medical superintendent officer of health?"—"In the laying of drains or describing how that work should be done I would not consult the medical superintendent officer of health," and he also said that there were some matters connected with public health in which he thought he was better informed than the medical superintendent officer of health. He gave the opinion that the medical officer of health should have his time more taken up with the stamping out of infectious disease, whereupon one of the Commissioners asked, "Is not one of the ways to stamp out infectious disease to keep the houses healthy?" to which he was obliged to answer in the affirmative. Such evidence clearly shows the value of one of the resolutions passed by the Ulster Medical Society, "That the medical officer of health should be sole head of a department in charge of the health of the city in all its branches."

The Tuberculosis Problem in Belfast.

In a new city like Belfast, where, as reported to the Health Commission, from 1895 to 1906 (that is, during 12 years) 12,862 people died from pulmonary tuberculosis, making a total of over 17,000 deaths from tuberculosis when added to those caused by the other forms of the disease, it is of the utmost importance that a clearly defined and well-thought-out plan for dealing with the question should be brought before the public, and one of the objects of the commission of experts at present sitting in Belfast is to suggest measures in order to solve this most pressing problem. Instead, however, of waiting a few months until the Commission issues its report, it appears that the public health committee of Belfast, entirely on its own initiative, is about to rush on a scheme, for at a meeting of the city corporation held on May 1st it was announced that a subcommittee of the public health committee recommended the taking of a house in Great Victoria-street for the purpose of a tuberculosis dispensary—in other words, the establishment of a central dispensary in Belfast with a medical officer whose duties would be to deal solely with consumptive patients. Now, as pointed out by a correspondent ("Watchman") in the Belfast papers, a dispensary is only one element in the solution of the tuberculosis problem and by itself is of very little use unless some measures are taken to deal with the patients who will go there anxious to have hospital treatment. Up to the present, though frequently pressed by the Irish Local Government Board, the Belfast public health committee has not erected a sanatorium and the negotiations which were going on between the committee and the Forster Green Hospital for Consumption have so far ended in nothing, so that to open a tuberculosis dispensary without arranging beforehand what will be done with the early and with the advanced cases is "futile" (as stated by a writer in the Belfast daily press), "as much so as was the adoption of the Act for notifying infectious diseases without having first built a fever hospital." But, further, the public health committee has never even settled the question as to whether pulmonary tuberculosis should be made a notifiable disease (voluntary or compulsory), and it has never thought it worth its while to consult the members of the medical societies who would try to guide the committee and keep it right in a matter of such great public importance to the city. The fact of the matter is, no harm can accrue if the public health authorities will only wait a few months until the Commission at present sitting in Belfast—which has had such revelations brought before it in part by evidence and in part also by its own personal investigations—has made its report on this and other problems. To attempt to rush things now before this Commission has had time to report will only complicate matters afterwards, will arouse the suspicion of the public, and will still more alienate the medical profession who have so little confidence in the present administrative capacity or specialised knowledge of the public health authorities of the city. It is to be hoped that the Local Government Board will refuse to sanction any plan put forward by the Belfast public health committee until it is shown that it is one which will grapple with all sides of a confessedly difficult problem, as well as conform to its suggestion that the public health authorities should have an advisory committee to guide them in trying to solve the problem of tuberculosis.

May 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Cost of Maintenance of the Anti-tuberculous Department founded by Dr. Albert Robin at the Beaujon Hospital.

Dr. Robin has kindly supplied some supplementary information concerning the expense of his anti-tuberculous scheme, an account of which recently appeared in THE LANCET. In 1905 the cost of drugs, including gelatin, had risen to 693 francs for 4138 attendances, or 0·167 franc for each attendance; in 1906 it reached 9775 francs for 5371

attendances, or 0·181 franc per attendance. If general expenses be taken into account the total cost for 4138 attendances of 935 patients in 1905 was 6803·94 francs, or 1·64 francs per attendance; in 1906, for 5871 attendances of 1286 patients, the cost worked out at 9551·35 francs, or 1·85 francs per attendance. These figures include everything, not only drugs, gifts of food, and spittoons, but also the general working expenses of the department. This method of stating the cost is more trustworthy than that of reckoning the cost per patient, since only a certain number attend regularly; others come once only or very irregularly, not returning after receiving treatment which seems to have made them sufficiently well to return to work, whilst some others die. It is consequently impossible to make an accurate calculation on the basis of the number of patients treated.

A Spirochætal Disease Pathogenic to Man in Colombia.

At the Academy of Medicine on April 30th M. Blanchard described a recurrent febrile disease observed at Bogota at an altitude of 2600 metres; it resembled clinically the relapsing typhus fever of tropical Africa. It is not a fatal malady but clears up after three or four relapses. In the blood are found spirochætæ in very small numbers, resembling those found in the disease aforesaid. The specific nature of the disease is not yet determined, as inoculation of monkeys was not successful. It is not certain whether this parasite is to be identified with the spirochæta of relapsing fever or the spirochæta Duttoni of tick fever. In any case the disease, like the latter, is transmitted by an ornithodorus which attacks people in bed in the same way as the bed-bug. The existence of this disease at Bogota tends to prove the universal distribution of maladies due to spirochætæ throughout the tropical zone and also sheds further light on the pathogenic rôle of the ticks and large acarides of the genus Ixodes. It also explains the unpleasant experience of many travellers in different lands, especially in the north of Persia; in that country the Argas Persicus and Ornithodorus Tholozani cause amongst travellers a severe febrile infection of variable severity, which may be fatal, and which may be grouped amongst the spirochætal diseases; natives are not attacked on account of hereditary or acquired immunity. The disease reported from Colombia shows quite similar features.

The Influence of Vaccination on Whooping-cough.

At the Therapeutical Society on April 23rd M. Amat presented a study of this question. In his first case, an unvaccinated nursling suffering from whooping-cough, he found no good effect from vaccination, although six scars were obtained. Recently, however, M. Amat revaccinated two patients suffering from whooping-cough and they so notably improved that he has become very favourably inclined to this method of treating the disease.

Rectal Blennorrhagia and its Complications.

At the Academy of Medicine on April 30th Professor Fournier read a paper by Dr. Brunsurg-le-Bihan on this subject based on a comparatively large number of cases. In the first place, suppurative proctitis is not an obvious disease, as is often said; neither inflammation of the surrounding skin nor purulent discharge, as in gonorrhœa, is found; the pus is concealed and has to be looked for; it is of a brown colour and contains a rich bacterial flora. Three complications may be described—viz., acute periproctitis, which may lead to ischio-rectal abscess; chronic periproctitis, analogous to periurethritis; and rectal stenosis, which is generally mistaken for a syphilitic contracture.

Adulterated Flour.

A gross fraud carried out by dealers in flour in the South of France has recently been brought to light in the shape of the addition of talc to the flour to gain a greater profit. The excuse is given that the addition of talc increases the whiteness of the flour—a quality which the public demands even in the case of low-priced flours. The presence of talc, however, gives rise to various gastric troubles in those who partake of this adulterated flour. No fatal results have followed as yet, but a far-reaching inquiry is being undertaken into the matter. The practice seems to have attained considerable proportions among the flour dealers of Toulouse and of Poictiers.

May 13th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Operative Treatment of Cancer of the Stomach.

IN the *Korrespondenzblatt für Schweizer Aerzte* of May 1st Professor Kocher of Bern reports the results of 122 partial resections of the stomach followed by gastrostomy. He now performs very few palliative operations as the results proved unsatisfactory. In the 17 years from 1881 to 1898 he performed gastrostomy 52 times, Dr. Broquet reporting on these cases; in the next eight years there were 45 operations performed, the results of which Dr. Matti published; and Professor Kocher now adds 25 cases operated on during the last two and a half years. The mortality has decreased from 34·6 per cent. (Broquet) to 17·7 per cent. (Matti). Of the last 25 cases only four succumbed (16 per cent.). These four cases, however, had either been operated on previously or had severe complications. 19 simple and uncomplicated cases all recovered; this speaks well for the latest technique of operation. The importance of early diagnosis is obvious. The fate of such patients, says Professor Kocher, thus lies in the hands of the general practitioner. Where there is a suspicion of tumour in the gastric region a thorough examination under a general anæsthetic should be made. Inflation of the stomach should also be practised for diagnostic purposes and the contents of the stomach should be examined after a test meal. Sometimes it is desirable to apply the Glutzinsky method of emptying the stomach several times a day after meals. A decreasing amount of hydrochloric acid in the contents obtained points to the presence of cancer. Slight concealed hæmorrhages are of the greatest significance. Dr. Taworsky and Dr. Korolewicz recommended in a paper published in 1906 in the *Wiener Klinische Wochenschrift* (No. 38) that in all suspicious cases the fæces should be examined to see whether they contained blood. Dr. Boas of Berlin published a paper on the subject in 1905 (*Klinische Vorträge*). Hæmorrhages from a simple ulcer stop after a few days of rest in bed and careful dieting, but hæmorrhages due to cancer do not cease. Dr. Boas found blood in the stomach or fæces in 107 out of 124 cases of cancer of the stomach. Continuous decrease of appetite and increase of anæmia, together with symptoms of chronic gastritis without any persistent chronic irritation, as, for instance, from dietetic irregularities, gout, or the excessive use of alcohol, tea, tobacco, &c., are very suspicious. Lactic acid is only found in old-standing cases of ulcerating cancer with hyperacidity. Quite a number of publications on resection of the stomach for cancer have already appeared. Leriche (Lyon) collected 1366 cases operated on with a mortality of 25 per cent. Of Professor Kocher's 95 cases, all operated on at least three years ago, 13 are perfectly well and 18 died from other diseases without any return of cancer. The method of operation seems to be of importance as regards direct results. Guinard reports a mortality of 35·3 per cent. in 291 cases operated on by the Rhydygier-Billroth method. Professor Kocher has had a mortality of only 15·2 per cent. in 92 cases. He performs resection with consecutive gastro-duodenostomy and refers for the details of the operation to the latest edition of his book on operative surgery.

Zürich, May 8th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Serum Treatment of Diphtheria.

AN interesting paper on the value of anti-diphtheritic serum was read by Dr. Bittner at a recent meeting of the Brünner Medical Society. It was based upon observations made by him on 1515 children in the Children's Hospital. Of these 26 were taken into the hospital in a moribund condition and in 109 other cases the disease proved fatal, giving a mortality of a little over 7 per cent. It must be kept in mind that all these patients went to the hospital not on the first day of the disease but mostly on the third or fourth day and very often with grave complications. Surgical interference was necessary in 357 cases, including 249 intubations with a mortality of 14 per cent., 95 secondary tracheotomies with a mortality of 36 per cent., and 13 primary

tracheotomies with a mortality of 46 per cent. The high figures for the tracheotomy mortality illustrated well the bad condition of the children who had to be operated upon. Among those classified as dangerously ill 287 children (44 per cent.) showed grave symptoms of stenosis of the upper air passages and were treated only with the serum and the steam chamber. The latter was a room into which all the intubated children were also taken, for the high percentage of moisture in the air was very beneficial in keeping the expectoration liquid and preventing the formation of dry masses in the trachea. Not a single case of so-called septic diphtheria made its appearance when the serum was employed. This very grave condition used formerly to be observed in 3 per cent. of all cases. As regards the diagnosis, it was better not to wait in doubtful cases until the result of the microscopic examination was obtainable, but to inject prophylactically. Furthermore, it must be kept in mind that there were plenty of instances known in which numerous Löffler bacilli were present without any clinical symptoms of diphtheria, whilst, on the other hand, negative results of the bacteriological examination were compatible with urgent symptoms of diphtheria. The rash after injection appeared mostly on the tenth day and was generally quite harmless; sometimes there was general malaise which soon passed away. As a rule 1500 units of antitoxin were sufficient the first time, but in very urgent cases from 2500 to 3000 units might be used. Paresis after injection was due not to the serum but to the diphtheritic toxin, and there was no case on record where death could be actually traced to the serum. As regards prophylactic injections Dr. Bittner has found that it was necessary that the friends of the little patients, their family, and all other children coming into close contact with them should receive injections, otherwise the patients might spread the disease, even after discharge from the hospital. For this reason 246 children were injected prophylactically during five years without a single case of infection occurring amongst them. A control experiment was made with three boys belonging to different families. These three boys had seven brothers and sisters who were not injected prophylactically and the result was that after the discharge of the patients all the other seven children contracted diphtheria within a short time. Furthermore, Dr. Bittner has made it a routine practice to inject a prophylactic dose in every case of operation for enlarged tonsils or for adenoids, since he has found that the reaction after the operation is markedly lessened and the after-effects of the operation, such as pyrexia and loss of flesh, are prevented. He thought that often in children the reaction after the operation was really due to a mild attack of diphtheria.

Death of Professor von Mosetig-Moorhof.

Professor von Mosetig-Moorhof, the distinguished surgeon, whose name became known all over the world by his introduction of iodoform for the treatment of wounds, met with his death in tragic circumstances a short time ago. He had of late been troubled by attacks of heart spasm and giddiness, and was in the habit of walking on the banks of the Danube, where the cool air and the stillness seem to have had a soothing effect on his nerves. The fatal accident appears to have occurred during one of his attacks of giddiness. He was seen to go down to the margin of the river where he wetted his forehead with water and then suddenly disappeared in the current. At that spot the river is over 500 yards wide and the current is strong. Several endeavours were made to save him but without success and his body has not yet been recovered. Although 69 years of age he was in fairly good health and his unexpected death came as a shock to his numerous friends and pupils. Of recent years his name was much mentioned on account of the "iodoform-plombe," as he called it—namely, a method of filling cavities in bones with iodoform, especially in cases of tuberculous disease; it has often given successful results and has been employed by rhinologists and other surgeons for disease of the antrum of Highmore. Professor von Mosetig-Moorhof had served in three wars as chief surgeon. He had, therefore, very large experience of this branch of practice and military surgery was with him a favourite subject upon which to lecture. The honorary posts held by the deceased were very numerous and his contributions to medical literature were highly esteemed. Apart from his professional work in the hospital, he was a very successful surgeon whose services were in much request.

Paying Wards in the General Hospitals.

The managing board of the Vienna hospitals, in the hope of replenishing the funds of these institutions, has devised a new scheme which from its nature is strenuously opposed by nearly 90 per cent. of the practitioners of the city. Judging, however, from other precedents it is to be expected that this opposition will only serve to confirm the board in its opinion. The intention is that a portion of the present general wards should be set apart for paying patients, to whom a charge would be made of probably from 5*s.* to 8*s.* a day. So far nobody would find any fault with the scheme. But the general practitioner originally in attendance is to be excluded from continuing to act as the medical adviser of the patient once the latter has obtained admission to one of these paying wards. This would mean a further diminution of the practitioner's source of income and would only serve to improve the position of the professors or directors of the clinic, who would alone be entitled to visit this class of patients in the hospital wards. A firm stand has been made by the Medical Council and all medical corporations on this point and vigorous protests have been sent to the managing board. Up to the present time, however, no result is visible.

Marmorek's Serum in Pulmonary Tuberculosis.

Dr. Fischer has used Marmorek's serum, administered per rectum in doses of from 5 to 10 cubic centimetres, for the treatment of 15 patients suffering from pulmonary tuberculosis. The result, as he said, when reading a paper on the subject before the Aerztlicher Verein, was not very encouraging. One patient became decidedly worse after one week, so that the treatment had to be stopped. The other 14 showed no ill effects due to the serum and, in fact, they improved to some extent as regards their weight and general condition, but the fever, cough, expectoration, and sweating were not influenced in any marked degree. All the patients were in the second stage of pulmonary tuberculosis, having infiltration of the lungs down to the second rib, moist râles, hectic fever, and loss of flesh and appetite. The favourable influence on the weight was explained by Dr. Fischer as being due to the improved hygienic conditions under which the patients were kept when in hospital. No subcutaneous injections were given, as has been recommended lately, nor were opsonic observations made. When Dr. Fischer found that even mild cases were not much benefited by a course of treatment lasting for three months he was not disposed to continue it.

May 13th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Marriage of Consumptives.

SOME ethical questions connected with tuberculous disease have recently given rise to considerable discussion in Hungary. Many medical men in this country ridicule the excessive anxiety of the public concerning the infectiousness of pulmonary tuberculosis and certainly the views expressed in the newspapers with regard to it are sometimes peculiar. A writer in a leading newspaper is at present urging that legislation should forbid the marriage of tuberculous persons, although he himself admits that this would be a very arbitrary proceeding and one likely to be opposed by public opinion. The medical press discountenances this proposal, though acknowledging that the mingling of tuberculous persons with the general population favours the extension of the disease. In regard to the question of the marriage of tuberculous persons the medical man is often placed in a difficult position and asked to undertake a very delicate task, but in spite of recent optimistic views respecting the inheritance of either tubercle or a liability to infection there can be no doubt that marriage of tuberculous persons or of those with marked constitutional predisposition to the disease should be discouraged.

An Unusual Case of Barlow's Disease.

At a recent meeting of the Royal Society of Physicians Dr. Grosz Gyula showed a case of Barlow's disease. The patient, who was a girl, aged 15 months, was fed from birth to the age of 12 months simply on boiled milk and afterwards she was given a mixed diet, consisting of soup, eggs, and meat. On this *régime* the child, it is stated, developed very well. Her first tooth came in her tenth month and she began to walk in her twelfth month. About six weeks previously her limbs began to be the seat of pain and to become swollen. On the two following days she suffered from

bleeding from her mouth and the stools were blood-stained. At the end of January her scalp suddenly became swollen, as did also her eyelids. In this condition she was taken to the surgical section of a hospital, where she was kept under observation until Feb. 12th. The diagnosis was hæmatoma capitis. The swelling diminished visibly after the application of wet compresses, so that at the time of her discharge from the hospital no tumour could be felt. On Feb. 25th she was again taken to the hospital. She then looked delicate and was very ill developed, but there were no characteristic signs of rachitis. The shafts of the left thigh-bone and the left tibia were enlarged and on palpation hard, irregular swellings could be felt. Over both parietal regions of the skull there was a swelling, through which, on deep pressure, the sparsely covered bone could be felt. Both the upper and the lower eyelids were generally of a bluish-red colour. From these symptoms the diagnosis of Barlow's disease was established. The following symptoms were especially characteristic: rapid development, pains in the limbs, subperiosteal hæmorrhages over the long bones and the bones of the skull, and hæmorrhages from the mouth and the bowel.

The Ears of School Children.

At a recent meeting of the medical society of a considerable country town in Hungary a school medical officer presented an interesting report on the examination of the ears of 1000 school children. The investigation was undertaken with the objects of ascertaining the amount of ear disease in children of the poorest class, and if necessary of drawing attention to the subject. For the purpose of this inspection ears were considered to be normal when the membranes presented the usual appearance and the whispered voice could be heard at a distance of from eight to 12 metres. Inability to pass this test with one or both ears was present in 634 out of 1000 children. Foreign bodies were found in the ears of 16 children, of whom 13 were girls. Of 107 cases of deafness there were adenoids in 91; 270 of the total number of children had a discharge from one or both ears and in 74 cases the discharge was suppurative. The number who had previously suffered from middle ear discharge was 219 and of these 183 had adenoids, and perforation existed in 49, while adenoids occurred in 416 children, of whom 387 presented some aural troubles.

A New Method of Percussion.

It is well known that among men similarly trained some are more expert than others in the use of percussion as a means of diagnosis. This shows that even in such a simple matter there is room for the exercise of skill. A common error in employing percussion is for the hand to be laid flat upon the surface to be examined; this has the effect of diminishing the resonance, and the proper method is to place only the extremity of the "anvil finger" on the surface to be examined. An improvement has been suggested by Dr. Janos Plesch, a Budapest practitioner. Instead of placing the hand on the surface in the manner just described he flexes the middle finger of the right hand at a right angle at the joint between the first and second phalanges, only the pulp of the finger being brought into contact with the surface, by forcibly extending the joint between the second and third phalanges. Percussion is then practised on the lower epiphysis of the first phalanx. This it is claimed gives a clearer resonance and has the advantage of enabling the observer to limit his investigation to a smaller area of the surface. In abdominal percussion this method is less disturbing to the patient than when the flat of the hand is applied to the surface.

May 13th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Appalling Mortality from Plague.

BESIDES the appalling mortality from plague there is little of medical interest to record. For the week ending April 13th 87,561 cases with 75,472 deaths were reported. This is an increase of some 14,000 cases and 12,000 deaths over the previous week. The Punjab heads the list with 45,296 cases and 39,084 deaths; then following are: United Provinces, 27,236 cases and 23,948 deaths; Bengal, 7915 cases and 7092 deaths; Bombay, 4092 cases and 2981 deaths; Central Provinces, 1218 deaths; and Rajputana, 348 deaths. Besides these weekly returns it is of interest to calculate the recorded mortality from the present epidemic of plague since its commencement. From October, 1896, to Dec. 31st, 1906, the total deaths reported have been 4,411,242, and during the first three months of the present year no less than 495,000 deaths have been known to occur. The mortality has fluctuated greatly:—

In 1901 there were reported			274,000 deaths.
,, 1902	,,	,,	577,000 ,,
,, 1903	,,	,,	851,000 ,,
,, 1904	,,	,,	1,022,000 ,,
,, 1905	,,	,,	951,000 ,,
,, 1906	,,	,,	332,000 ,,

With the intensely severe recrudescence which has occurred during the present year, especially in the north-west portion of India, even the highest of these figures may be exceeded. It will be noticed that the Bombay Presidency now takes a much better place than formerly and it would almost seem as if the disease were dying out gradually in that province. On the other hand, it must not be supposed that the official figures are accurate. The returns of plague in many places do not account for the whole of the increased mortality, and if that can be clearly shown for places where the registration of deaths is fairly correct it is reasonable to assume that plague carries off many more victims than the above figures show. In addition to plague there has been an increased mortality from all other causes. The death-rate for the whole of India has increased steadily during the past five years—viz., from 29 per 1000 in 1901 to 36 per 1000 in 1905. When it is found, however, that Madras recorded the low rate of 21·4 during 1905 one looks with suspicion upon the returns, notwithstanding that this province is practically free from plague. Amidst these unsatisfactory returns Calcutta takes a comparatively enviable position. The plague returns from this city, which has now been infected for over nine years, are very small compared with other places. It is true that over 50,000 people have died in the city, but this is a small number in all the circumstances. Last year there were only 2600 deaths and the recrudescence this year, though somewhat more severe than that of 1906, is less than half the severity of that of 1905. It has been noticed during the present outbreak that the average duration of each fatal case is about five days.

The Plague Department in Calcutta.

The question of the amalgamation of the plague department in Calcutta with that of the health department of the corporation is again up for discussion. Up to the present the plague department has been under the Bengal Government and has been worked smoothly and satisfactorily. Motives of economy occasionally sway the corporation and it is supposed that by taking over the subordinate staff of the plague department all the previous work of the two departments can be accomplished by the health department. The opportunity is being taken also of improving the status of the district health officers and of introducing new men. In the long run very little expense will be saved but if the new health officers and the new district officers are suitable men the transference of the plague department may be successful. It is the general opinion that the change if made with the existing staff would be disastrous.

April 26th.

Obituary.

SAMUEL LODGE, L.R.C.P. EDIN., M.R.C.S. ENG.

Mr. Samuel Lodge of Bradford, Yorkshire, died at his residence in that city on May 9th at the age of 83 years, during 25 of which he had held the position of police surgeon. He had been for a much longer time one of the poor-law medical officers and had been in receipt of a retiring allowance in that capacity for several years before his death. Mr. Lodge was the oldest medical practitioner in the city and with his departure the chief representative of what may be called the old school medical practitioner has disappeared. Sprung from substantial yeomen parents in Witney, Oxfordshire, and the eldest of a family of 11, all of whom predeceased him, he obtained the beginning of his medical education under the old system of apprenticeship as an articled pupil of Dr. W. Field. Before that time Mr. Lodge had been a schoolmaster, but the teaching

profession did not prevent him from pursuing medical studies. During his apprenticeship days he entered as a student at the Leeds School of Medicine, at that time and for long afterwards the most important provincial school in the country. He was dresser to the late Mr. Pridgin Teale, father of the present Mr. T. Pridgin Teale. Before the railway was opened he used to make the double journey from Dudley Hill to Leeds and back on foot. Five shillings a week indoors was the extent of his remuneration at the commencement of his apprenticeship and many of the duties about the surgery which are now considered menial formed part of his daily work. The amount of work which fell to the lot of the apprentice at that day was very great. To dispense for perhaps 100 patients a day, including the making of pills and powders by hand, keeping made up a large number of stock medicines ready for all eventualities, responding to urgent calls in the absence of the principal, and attending to the lion's share of some 300 midwifery cases a year, besides keeping the books, formed the daily and nightly routine of medical students. The only wonder is, how any time could be set apart for medical study. Professional examinations in those days, however, were directed to the discovery of whether candidates for qualification had practical knowledge of how things were done rather than into their knowledge of the more abstruse theories which might underlie practice. Even before he became qualified Mr. Lodge assisted his principal, then an old man, in a post-mortem examination which became classic, as it formed the starting-point of those investigations which, through the labours of the late Dr. J. H. Bell and others, have placed anthrax, or what was then called wool-sorters' disease, on the scientific basis where it now rests. Mr. Lodge wrote the account of the post-mortem examination of that case in the year 1854. In 1859 he took the diplomas of L.R.C.P. Edin. and M.R.C.S. Eng. He was a prompt, energetic, and self-reliant practitioner who was at all times ready to act as circumstances might require. The writer of this little memoir has himself entered a cottage home in company with Mr. Lodge and has seen him there and then cut down on a strangulated umbilical hernia, relieving the stricture by means of a pocket scalpel opening on the principle of a penknife. The patient made an excellent recovery without suppuration, although no special antiseptic precautions were taken. This was about the time when a distinguished student of a Scottish university was "sent back" by the Royal College of Surgeons of England, it was generally believed, because he had advocated in his examination more care for asepticism than was then considered necessary by the College authorities. So wide has been the change in medical opinion and in surgical practice. Some distinguished practitioners of medicine, if unknown to general fame—notably the late Mathew Lee, a very prompt, resourceful, and brilliant surgeon—were trained by Mr. Lodge. Although in some respects the present generation of medical practitioners is better educated than those who are rapidly passing away the older men in their time set a good example of courage, resource, probity, honour, and humanity. *Requiescant in pace.*

THE ROYAL SANITARY INSTITUTE: ANNUAL DINNER.

THE annual dinner of the Royal Sanitary Institute was held in the Langham Hotel, Portland-place, on Wednesday, May 15th, the Duke of Northumberland, the President of the Institute, occupying the chair. On the chairman's right were Major-General Right Hon. Lord Cheylesmore, Major-General Sir Thomas Fraser, Sir Lauder Brunton, Surgeon-General Sir Alfred H. Keogh, Sir John McFadyean, Surgeon-General A. M. Branfoot, Mr. S. Pollitzer, and Sir Alexander Binnie. To the left of the chair were Mr. H. D. Searles-Wood, Chairman of Council; Sir Francis Powell, Colonel Sir Charles M. Watson, Sir Aston Webb, Canon Barker, Sir James Crichton-Browne, Sir Thomas Brooke-Hitching, Sir Shirley F. Murphy, Dr. H. Gervis, Mayor of Brighton, and Dr. E. B. Forman.

After the usual loyal toasts had been proposed and honoured, Sir JOHN MCFADYEAN proposed the toast of "The Navy, the Army, and the Auxiliary Forces." He confessed to some amount of ignorance in regard to naval and military affairs, but expressed an admiration for both services. He thought that the Royal Army Medical Corps was in a high state of efficiency and it was a source of great satisfaction that it included a great many supporters of the institute. In reply to this toast Major-General Sir THOMAS FRASER referred to the importance of maintaining the strength of our forces on land and on sea.

The toast, "The Houses of Parliament," was proposed by Sir THOMAS BROOKE-HITCHING, who said that they owed much to Parliament in regard to sanitation. Major-General the Right Hon. Lord CHEYLESMORE replied for the House of Lords and Sir FRANCIS POWELL for the House of Commons. The latter paid great tribute to the zeal of Mr. John Burns in his efforts to secure sanitary conditions for the people. He was, he said, devoted heart and soul to the physical well-being and health of the people. He referred also to the attempts of the Government to insure a purer food supply. He thought that something had been gained when the public showed, though it might be incomplete, yet some knowledge of the laws of health. In conclusion he congratulated the Sanitary Institute on the excellent work which it was doing.

In proposing the toast of "The Royal Sanitary Institute" the Duke of NORTHUMBERLAND said that the progress of the institute was most satisfactory. The Secretary of State for War had recently complimented them on the standard of their examinations. The institute was in a sound financial position and he thought it a very excellent fact that they were spending their money in doing just that work for which the institute was established. Mr. SEARLES-WOOD, replying to this toast, gave some statistics as to the annual number of candidates examined on whom they looked as sanitary missionaries.

Sir ASTON WEBB, in proposing the toast of "The Visitors," said he should like to see legislative measures introduced providing for the regulation of the development of towns and cities, for open spaces, and for broad streets and avenues which would admit plenty of sunshine and air. Overcrowding was a terrible evil, engendering squalor and misery and a menace to the health of the bread-winner. Colonel Sir CHARLES WATSON replied and referred to the excellent work of the War Office in advancing sanitation.

The dinner was excellent and well served, and the organising committee and its secretary may be congratulated on the distinct success which attended the occasion.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The Council of the Royal College of Surgeons of England on May 9th conferred diplomas of M.R.C.S. upon the undermentioned gentlemen who have completed the Final Examination in Medicine, Surgery, and Midwifery of the Examining Board in England, the Royal College of Physicians of London having conferred its licence upon the same candidates on April 25th last:—

George Henry Adam, King's College and St. Bartholomew's Hospital; Frederick Octavius Arnold, B.A. Cantab., Cambridge and Manchester Universities and St. Thomas's Hospital; Hugh Tuke Ashby, B.A. Cantab., Cambridge and Manchester Universities; Philip Heinrich Bahr, B.A. Cantab., Cambridge University and London Hospital; Harold Josiah Beddow, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Richard Charles Palmer Berryman, St. Bartholomew's Hospital; John Birch, Manchester University; Robert Edward Brayne, Guy's Hospital; Josiah Browne, King's College Hospital; Charles Walter Gordon Bryan, St. Mary's Hospital; Martin Binns Studer Button, L.S.A., London Hospital; Harry Vivian Byatt Byatt, B.A. Cantab., Cambridge University and London Hospital; William James Chapman, M.D., C.M., Toronto University and Middlesex Hospital; Percy John Chissell, Middlesex Hospital; Spencer Churchill, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Edward Bellis Clayton, B.A. Cantab., Cambridge University and King's College Hospital; Horace Charles Colyer, L.D.S., Charing Cross and University College Hospitals; Percival Sandys Conneilan, University College, Bristol; Paul Alfred Creux, Lausanne University and London Hospital; Timothy Howell Davies, Middlesex Hospital; Arthur Hubert Treby Davis, St. George's Hospital; Herbert Edwin Tonge Dawes, B.A. Cantab., Cambridge University and St. Thomas's Hospital; George Denholm, M.B., B.S. Durh., Durham University; Arnold Thomas Densham, Cambridge University and Guy's Hospital; Horace Dimmck, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Maurice Mason Earle, Guy's Hospital; Howard Robinson Elliott, Sheffield University; Carlton Atkinson Ellis, London Hospital; William Aiken Fairclough, M.B., Ch.B. New Zealand, New Zealand University; John Henry Farbstein, University College Hospital; Marmaduke Fawkes, St.

Bartholomew's Hospital; Norman Flower, B.A. Oxon., Oxford University and Guy's Hospital; William Edward Lindsey Fowler, St. Bartholomew's Hospital; Claude Howard Stanley Frankau, St. George's Hospital; William Douglas Frew, L.D.S. Eng., Middlesex Hospital; Percy Charles Garrett, Manchester University; Harold Gibson, London Hospital; William Stonier Gibson, L.S.A., Middlesex and Manchester University; Alexander Savill Graham, Charing Cross Hospital; George Graham, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; William Robert Greening, Guy's Hospital; Frederic William Wandby Griffin, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Robert Eugene Vaughan Hale, B.A. Cantab., Cambridge and St. Andrews Universities, and St. George's Hospital; Hother McCormick Hanschell, St. Bartholomew's Hospital; Robert Norman Hartley, Manchester University; Lionel Chattock Hayes, Birmingham University; Arthur William Hayward, Cambridge University and Westminster Hospital; Charles Edward Kynaston Herapath, University College, Bristol; George Alexander Frederick Heyworth, B.A. Cantab., Cambridge University and London Hospital; Walter de Marchot Hill, St. Bartholomew's Hospital; Hendrik Houwink, London Hospital; Richard de Silva Illesinghe, L.M. & S. Ceylon, Ceylon Medical College and University College Hospital; Charles George Jarvis, M.D. Paris, Paris University; Richard Sydney Jenkins, Cambridge University and London Hospital; William Griffith Jones, L.D.S. Edin., Cardiff and Manchester University; Alexander John Kendrew, St. Bartholomew's Hospital; Solomon Krestin, M.D., B.Sc. Geneva University, University of Geneva; Malcolm Leckie, Guy's Hospital; Harold Howard Leeson, St. George's Hospital; William Samuel Leicester, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Richard Leonard Ley, B.A. Cantab., Cambridge University and St. Mary's Hospital; Conrad Loddiges, St. Bartholomew's Hospital; William Lovell, L.S.A., St. Mary's Hospital; Frederic Boulton Lowe, M.R.C.V.S., Guy's Hospital; James Barlow Macalpine, M.B., Ch. B. Man., Manchester University; Colin Francis Frederick McDowall, M.B., B.S. Durh., Durham University; Eric Lachlan Marchant, M.B., Ch.B. New Zealand, New Zealand University and London Hospital; William Beare Martin, Manchester University; John Harry Mayston, Guy's Hospital; Brian Bentley Metcalfe, Guy's Hospital; Henry Lewis Morgan, London Hospital; Edgar Lionel Robert Norton, Guy's Hospital; Henry Sandford Ollerhead, St. Mary's Hospital; Arthur O'Neill, St. Bartholomew's Hospital; Gerard Lyne Parsons, Westminster Hospital; Basil Thomas Parsons-Smith, St. Thomas's Hospital; Walter Patey, St. Thomas's Hospital; Stanley Paulin, M.B. Tor., Toronto University and London Hospital; Charles Arnold Pemberton, New Zealand University and Middlesex Hospital; Edward Campbell Pope, St. Mary's Hospital; Otto Carl Willy Prausnitz, M.D. Breslau, Breslau University; Geoffrey Price, St. Thomas's Hospital; John Lawson Rankine, Guy's Hospital; John Allister Renshaw, St. Bartholomew's Hospital; Kenneth Robinson, Manchester University; Cecil Frank Rumsey, L.D.S. Eng., Charing Cross Hospital and Cambridge University; Alfred Ludovicus Sachs, M.A. Cantab., Cambridge University and St. Thomas's Hospital; Leslie St. Vincent-Welch, St. Bartholomew's Hospital; John Selfe, St. George's Hospital; Edgar Arthur Shirvell, London Hospital; Arthur Leonard Singer, Cambridge University and London Hospital; William Fretson Skinner, L.S.A., Sheffield University and University College Hospital; Francis George Snoad, Birmingham University and St. Mary's Hospital; Edward Cyril Sparrow, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Lionel Duncan Stamp, Guy's Hospital; Frank Standish, London Hospital; George Stone, London Hospital; Arthur Arbuthnot Straton, St. Mary's Hospital; Joseph Roderick Sutherland, M.B., Ch.B. Glasg., Glasgow University; Ronald Ernest Todd, St. Thomas's Hospital; Sohrab Shapoorji Vazifdar, L.M. & S. Bombay, Bombay University; John Leeming Walker, M.D., C.M. McGill, McGill University, Montreal; Norman Hamilton Walker, St. Bartholomew's Hospital; Ronald Ralph Walker, B.A. Cantab., Cambridge University and Guy's Hospital; Harry Gordon Webb, St. George's Hospital; Henry Bright Weir, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Harrie Bruce Wickham, Liverpool University; Joseph William James Willcox, University College, Bristol; Cecil Lennox Williamson, Liverpool University; and Lorton Alexander Wilson, Manchester University.

The Royal College of Physicians also conferred its licence upon the following gentlemen who have already received their M.R.C.S. diploma:—

Robert Dixon Brown, St. Thomas's Hospital; Henry Orton Howitt, McGill University; Charles Grange McGreer, Queen's University, Kingston, and Middlesex Hospital; and Charles Edward Waldron, London Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the half-yearly Primary Examination for the Fellowship of the above College, held on May 2nd, 3rd, 7th, 8th, 9th, and 10th, 113 candidates presented themselves for examination, of whom 33 per cent. were approved and 66 per cent. were rejected. The following are the names of the successful candidates:—

George Cuthbert Adeney, M.B., B.S. Lond., M.R.C.S., L.R.C.P. St. Thomas's Hospital; William Appleyard, M.B., B.S. Lond., M.R.C.S., L.R.C.P., University College Hospital; Arthur Laurence Candler, St. Bartholomew's Hospital; Hubert Chitty, M.B., B.S. Lond., M.R.C.S., L.R.C.P., University College Hospital; George Herbert Colt, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and St. Bartholomew's Hospital; Percival Templeton Crymble, M.B., B.Ch., B.A.O. R.U.I., Queen's College, Belfast; Edmund Arthur Dorrell, M.R.C.S., L.R.C.P., D.P.H., University College, Bristol, and St. Bartholomew's Hospital; Augustin Pownall Fry, St. Bartholomew's Hospital; Wilfred Watkinson Holtzmann, M.A., M.B., B.C. Cantab., London Hospital; Charles William Menelaus Hope, M.B., B.S. Lond., M.R.C.S., L.R.C.P., King's College; William Johnson, Guy's Hospital; John Lawrence Johnston, Guy's Hospital; Hugh Braund Kent, Guy's Hospital; Alexander Kinder, M.B., B.Ch., B.Sc. New Zealand, M.R.C.S., L.R.C.P., New Zealand University and London Hospital; John Christopher Lyth, Leeds University; John Alexander McCollum, M.B. Toronto, M.R.C.S., L.R.C.P., Toronto University and King's College; Michael McCann, M.B., B.Ch. R.U.I., King's College and Queen's College, Belfast; Francis Edmund McKenty, M.D., C.M. McGill, M.R.C.S., L.R.C.P., McGill University; Reginald Hawksworth Mawhood, B.A. Cantab., St. Bartholomew's Hospital; Richard Drummond Maxwell, M.D. Lond., M.R.C.S., L.R.C.P., London Hospital; Edwin Bertram Morley, London Hospital; Krishna Moreshwar Pardhy, M.R.C.S., L.R.C.P., King's College and Birmingham University; George Henry Pooley, F.R.C.S. Edin., Cambridge University and St. George's Hospital; John Wardell Power, M.B., C.M., Sydney University; Frederick Charles Pybus, M.B., B.S. Durh., Durham University; Paul Bernard Roth, M.B., Ch.B. Aberd., Aberdeen University and London Hospital; Henry Charles Gustavus Semon, M.A., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., Oxford University, University College and King's College; George Charles Edward Simpson, B.A., M.B., B.C. Cantab., B.Sc. Lond., Cambridge University and St. Bartholomew's Hospital; Henry Sessions Souttar, M.A., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., Oxford University and London Hospital; Joseph Collingwood Stewart, M.B., M.S. Durh., Durham University and King's College; Ewart Philip Stibbe, Charing Cross Hospital; Harvey Sutton, M.D., Ch.B. Melb., Melbourne University and Oxford University; Harold Lindley Tasker, University College; Henry Ashbourne Treadgold, B.A. Cantab., Cambridge University; Wilfrid Warwick Treves, B.A. Cantab., Cambridge University and London Hospital; Cranston Walker, Birmingham University; and George Ewart Wilson, M.B. Toronto, Toronto University and London Hospital.

UNIVERSITY OF EDINBURGH.—The following is the official list of passes at the recent professional examinations for degrees in Medicine and Surgery:—

First Professional Examination.—J. A. Andrews, P. W. Bedford, B. J. W. Bennetts, Prem Nath Berry, Charlotte M. Birnie, J. R. Boyd, U. P. F. Brown, C. E. H. Browne, H. M. Buchanan, F. D. Cairns (with distinction), E. H. Cameron, William Campbell (with distinction), E. R. Carlos, Tapeshurnath Caul, Anna Chose, G. J. Cillie, Andrew Cochrane, Lilian Cook, D. H. D. Cran, May F. W. Davidson, Robert Dow, W. E. Fitzgerald, H. H. C. Fuller, Alexander Galletly, K. A. Gilchrist, J. P. Glyn, C. W. Graham, A. C. Heard, Jack Hewat, Samuel Hodkinson, N. J. Hofmeyr, B.A., John Honeyford, J. L. Huggan, W. H. Irving, Abraham Jasinowsky, H. A. Khin, Archibald Langwill, J. J. Levin, Thomas Lindsay, R. B. Llewellyn, F. M. Low, Eva M. Lyon, E. F. G. M'Auliffe, G. N. M'Diarmid (with distinction), E. C. Mackay, Robert M'Laren, N. G. M'Lean, Peter M'Nab (with distinction), D. F. Macrae, W. C. B. Meyer, Lucy M. Muir, F. D. Pascoe, L. T. Poole, S. H. Pugh, K. Ahobala Rao, A. B. Robertson, W. H. Robinson, H. A. Von Ronn, C. M. Rout, E. St. J. Seelly, T. M. Sellar, Robert G. Shaw, S. F. Silberbauer, W. F. W. Sim, W. D. D. Small, B. H. H. Spence, H. H. Stewart, R. M. Stewart, James Taylor, J. H. Tennent, C. M. R. Thatcher, P. H. du Toit, F. L. Tulloch, Mary B. Walker, S. J. A. Hall Walsh, F. H. C. Watson, John Watson, J. H. Watson, T. C. Welsh, L. S. Willox, and N. C. Young.

Second Professional Examination.—D. C. Adam, T. A. Adams, David Aiken, R. J. Allsopp, Alexander Archibald, Alice E. M. Babington, T. H. Balfour, Eveline R. Benjamin, W. M. Biden, T. C. Borthwick, F. A. J. Brodziak, G. S. Brown, A. Ninian Bruce, B.Sc., W. F. Buist, W. L. Burgess (with distinction), B. N. Burjorjee, A. W. Burton (with distinction), Sarah E. Buyers, J. A. Campbell (with distinction), Louis Cassidy, John Cathcart, G. L. Cawkwell, R. B. Chamberlain, P. H. Chauvin, B. R. Chopra, F. M. Chrystal, N. A. Coward, James Crocket, Lucy R. Davies, J. K. M. Dickie, Adelaide A. Dreaper, J. W. C. Drever, F. A. Duffield, A. M. Elliott (with distinction), W. C. Fragoso, E. L. Galletly, Cromwell Gamble, Mary M. Gardner, G. H. Garnett, A. W. Gill, T. J. Gilmore, D. M'D. Grant, R. D. Latimer Greene, S. C. Sen Gupta, A. G. Hamilton, E. S. B. Hamilton, H. P. Hamilton, R. C. Harkness (with distinction), J. B. Haycraft, John Henderson, G. R. Inglis, Flora Innes, W. C. Jardine, A. M. Jones, G. B. King (with distinction), J. H. Lawry, D. C. Lee, L. A. Lewis, Harry Lipetz, W. R. Logan, H. A. V. Loots, C. L. Louw, Mary Low, M.A., H. F. Lumsden, Alexandra B. MacCallum, David M'Carrol, A. J. M'Connell, William Macdonald, G. B. G. Mackay, John Casserat Mackenzie, Duncan Mackinnon, A. G. MacLeod, Donald M'Phail, R. C. MacQueen, John Malloch, T. H. R. Mathewson, W. M. Menzies, William Messer, E. L. Middleton, L. M. V. Mitchell, John Montgomery, S. P. Moore, J. A. Mortimer, J. M. Moyes, C. C. Murray, Kishanlal Nehru, J. G. Nicholson, M.A., F. H. Noronha, James Ong, M.A., J. R. T. Oxley, J. J. Pace, S. P. P. Proctor, John Renwick, D. G. Robertson (with distinction), W. S. Robertson, D. M. Ross, Marguerite Ross, William Ross, M.A., R. P. Rosser, Philip Roytowski, A. C. Russell, C. M. Schaffter, Jessie A. Scott, J. J. M. Shaw, M.A., J. C. Simpson, Kerr Simpson, G. H. Sinclair, Gertrude M. Smith, H. Faithful Smith, B.A., J. G. Smyth, James Sprent, B.Sc., William Stewart, C. P. A. Stranaghan, James Swan, H. W. Teague, J. A. Thompson, W. S. Thomson, J. C. Watson, Tom Welsh, J. P. Whetter, E. V. Williams, and J. D. Wilson (with distinction). Old regulations: William Brand, P. M. Carlyle, and J. C. Tennent.

Third Professional Examination.—R. C. Alexander, H. M. Anderson, Marion H. Archibald M.A., Margaret W. Bartholomew, Lydia D. la Trobe Bateman (with distinction), G. L. Batra, James Black, Henry Blyth, A. M. Boss, William Boyd, John Brander, F. S. Brennan, B. S. Browne, J. A. Browne, J. E. Brydon, J. T. Carson, Jean G. Cathels, J. J. P. Charles, W. P. Chrystall, D. G. Cooper, H. S. Cormack, F. G. Cowan, D. D. Craig, Emilie C. Creaser, G. H. Dart, F. J. Davidson, J. M. Deuchars, J. T. Dickson, Joanna M. F. Drake, W. J. Duncan, A. L. Dykes, W. G. Evans, John Findlay (with distinction), William Fleming, Kenneth Fraser (with distinction), Thomas Gardner, Alex. Gibson, M.A. (with distinction), A. I. Girdwood, R. L. Girdwood, J. A. Gordon, Peter Gorrie, J. C. B. Grant, F. W. Greaves, J. A. W. Hackett, J. K. Hamilton, M.A., Robert Hannah, F. W. Hay, Hester M. Henderson, Herbert Hutson, J. D. Ingram

F. E. Jardine, J. J. Jervis, W. W. Johns, H. B. Johnson, J. V. Karve, A. W. Kendall, E. W. Kirk, R. A. Krause, F. R. Laing, C. L. Laurent, H. R. Lawrence, A. J. B. Leckie, M. A. Lindsay, V. D. O. Logan, James Lorimer, J. C. Lorraine, H. Bruce Low, R. F. D. MacGregor, Kenneth Mackenzie (with distinction), A. C. M'Killop, W. M. Macnab, David Macnair, E. R. D. Maconochie, A. C. Mallace, M.A., John Marshall (with distinction), W. J. F. Mayne, J. A. Mitchell, J. B. de W. Molony, Katherine B. A. Nelson, C. T. Newton, I. A. van Niekerk, E. F. W. Nixey, A. C. Norman, A. B. Pearson, J. H. H. Pearson, J. Harold Peek, Laura W. Pugh, K. A. Rahman, E. M. Reid, J. J. van Rensburg, C. L. D. Roberts, D. H. Russell, John Scott (with distinction), Frederick Shannon, J. T. Simson, E. W. Smerdon, W. B. Somers, G. S. Sowden, M.A., J. E. Spence, J. W. Stirling, William Stobie, E. A. Strachan, Adam Tait, G. P. Taylor, Eleanor M. Thompson, J. G. Thomson, M.A., J. J. Thomson (with distinction), R. W. Lang Todd, B.Sc., Raymond Verel (with distinction), F. H. de Villiers, A. A. Walbrugh, E. A. Walker, W. Oliphant Walker, H. S. Wallace, L. E. B. Ward, John Ware, F. K. te Water, F. W. Waterworth (with distinction), A. Pirie Watson, M.A., H. Ballingall Watson, M.A., H. L. Watson Wemyss, Adam White, D. J. Williamson, E. D. Wilmot, G. G. Wray, A. G. Yates, M.A., and W. A. Young.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Hermann Schröder of Greifswald has been appointed Extraordinary Professor of Odontology.—*Halle:* Dr. Ernst Adolf Schmidt of Dresden, formerly of Bonn, has been appointed Professor of Medicine.—*Kiel:* Dr. Ernst W. Baum has been recognised as *privat-docent* of Surgery.—*Pavia:* Dr. Francesco Turpura has been recognised as *privat-docent* of External Pathology.—*Pisa:* Dr. Ferdinando Fontana has been recognised as *privat-docent* of Operative Medicine.—*Prague (German University):* Dr. A. Elschnig of Vienna has been appointed Professor of Ophthalmology, in succession to the late Dr. Czermak. Two new professorships of Laryngology and Experimental Morphology are about to be established.—*Strasburg:* Dr. Wilhelm Schumburg has been recognised as *privat-docent* of Hygiene.—*Turin:* Dr. Giuseppe Vicarelli has been appointed Extraordinary Professor of Midwifery.—*Vienna:* Dr. O. Löwl, *privat-docent* of Pharmacology, and Dr. O. von Fürth, *privat-docent* of Medical Chemistry, have been promoted to Extraordinary Professorships.

LONDON TEMPERANCE HOSPITAL.—On Tuesday, May 14th, the new out-patient hall of this hospital was formally opened by H.R.H. Princess Louise, Duchess of Argyll, in the presence of a large number of supporters of the institution. An out-patient department has been in active operation since the establishment of the hospital in 1873 and during last year 25,216 persons were treated as out-patients, but the buildings formerly used for this purpose had long been recognised as unsuitable and inadequate, and the council of King Edward's Hospital Fund for London initiated the new scheme and made generous contributions towards the cost which has amounted to £11,000, but of this sum £3,800 have yet to be raised before the structure is fully paid for. The new building has waiting-room accommodation for 200 patients and possesses convenient consulting rooms, operating theatre, dispensary, and other advantages. It has been erected according to the designs of Mr. Rowland Plumbe, F.R.I.B.A. The board pleads for numerous and liberal remittances to meet the financial liability and to leave the new work unhampered in this respect.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the President, Vice-President, and Council held on May 7th the following examiners were elected for the ensuing year. Court "A," for Conjoint Licence, Diploma in Public Health, and Preliminary. Anatomy: Mr. Alexander Fraser and Dr. Bertram C. A. Windle. Surgery: Mr. Charles A. K. Ball, Mr. Alexander Blaney, Mr. F. Conway-Dwyer, and Mr. G. Jameson Johnston. Physiology and Histology: Dr. Denis J. Coffey and Mr. E. L'Estrange Ledwich. Pathology and Bacteriology: Mr. Arthur Hamilton White. Midwifery and Gynæcology: Mr. Frederick W. Kidd. Biology: Mr. John J. Burgess. Ophthalmology: Mr. Arthur H. Benson and Mr. Patrick W. Maxwell. Sanitary Law and Vital Statistics: Mr. Edward Francis Stephenson. Engineering and Architecture: Mr. Caleb J. Powell. Languages: Mr. L. J. Woodroffe. Mathematics, Physics, Dictation, and English Essay: Mr. J. W. Tristram. Dutch: Mr. John C. Pretorius. Court "B," for Fellowship, Licence in Surgery (for registered practitioners), Licence in Midwifery (for registered practitioners), and Licence in Dental Surgery. Anatomy: Mr. Patrick Joseph Fagan and Mr. Alexander Fraser. Surgery: Mr. Alexander Blaney, Mr. F. Conway-Dwyer, Mr. G. Jameson Johnston, and Mr. Richard Lane Joynt. Physiology and Histology: Dr. Denis J. Coffey and Mr. E. L'Estrange Ledwich. Pathology and Bacteriology: Dr. Arthur E. Moore and Mr. Arthur Hamilton White. Midwifery and Gynæcology: Mr. Frederick W. Kidd. Chemistry and Physics: Mr. Edwin Lapper and Mr. Robert J. Montgomery. Dental Surgery and Pathology: Mr. George M. P. Murray and Mr. William G. Story. Mechanical Dentistry: Mr. Daniel L. Rogers and Mr. Thomas F. Studley.

UNIVERSITY OF OXFORD.—In a Congregation held on May 7th the forms of statutes establishing a professorship in human anatomy and a professorship in pathology were promulgated and the preambles thereof approved (*nemine contradicente*).—The Board of the Faculty of Medicine will in and after Trinity Term, 1908, require from candidates for the Final B.M. examination, in addition to the certificates already required, a certificate showing attendance on a course of practical instruction in the administration of anæsthetics in a hospital approved by the Board.

LITERARY INTELLIGENCE.—"Crutches to Help Cripple Children" is a publication to be issued by Messrs. Bemrose and Sons on June 5th on behalf of the Lord Mayor's Cripples' Fund, and Sir William Treloar's charitable work ought to be assisted by considerable sales. Sir Douglas Straight is acting as editor of the literary section and Sir James D. Linton is responsible for the art section, each, of course, giving his services. Many well-known authors and artists have made gratuitous contributions, so that the result bids fair to be a literary and artistic success. The entire profits on the book are to be devoted to the fund now being raised by the Lord Mayor for the provision of homes to treat the tuberculous cripples of the poor, for which purpose a sum of £60,000 is required.

UNIVERSITY OF CAMBRIDGE.—Professor Nuttall will deliver his inaugural lecture in the anatomy theatre on May 22nd at 4.30 P.M.—The syndicate appointed for the purpose has submitted plans for a large extension of the chemical laboratory adjoining the new medical school. The cost is estimated at £13,500. The number of students in attendance at the beginning of the academical year was 384, and the pressure on the accommodation of the laboratory is very great.—The matriculations during the present term have brought the entry of freshmen for the year up to 1083, which is the largest on record.—The honorary degree of D.Sc. is to be conferred on Sir Thomas Fraser, F.R.S., professor of materia medica in the University of Edinburgh.—Mr. W. Bateson, F.R.S., St. John's, is again appointed deputy for the professor of zoology and comparative anatomy.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held on May 9th, Dr. G. F. Blandford, the President, being in the chair. 14 members were present. One vice-president and six directors were elected to fill the vacancies in the court. A cordial vote of thanks was passed to the editors of the medical journals for their courtesy in publishing the reports of the meetings of the society and endeavouring to make it better known to the members of the medical profession. The report for 1906 was adopted, and the following is a brief *résumé* of the work done by the society during the past year. The invested funds of the society amount to £98,960, from which is derived in interest the sum of £3114 4*s.* 11*d.*; £334 19*s.* were received in subscriptions and donations. The working expenses for the year were £217 10*s.* 5*d.* Amongst the annuitants of the charity—namely, 54 widows and 21 orphans—the sum of £3268 10*s.* was distributed, each widow receiving on an average £50 and £10 extra at Christmas and each orphan £10 and £3 extra at Christmas. During the year six widows who were in receipt of grants died. One, whose husband had paid a life subscription fee of £21, received £900. Five widows were elected during the year and on Dec. 31st there were 47 widows and 20 orphans in receipt of grants. One of the widows has been on the books since 1854 and has already received over £2000. Relief is only granted to the widows and orphans of deceased members who have paid their annual subscription for three years or are life members. During the year nearly 50 letters were received from widows of medical men who, in many instances, had been left practically penniless, asking for relief, but this had to be refused as their husbands had not been members of the society. The directors feel that they cannot too strongly urge upon the members of the medical profession, especially the younger ones, the desirability of

joining the society. Particulars and application forms may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, W.

ASYLUM WORKERS' ASSOCIATION.—The annual general meeting of this society (founded in 1895 to improve the status of asylum nurses and attendants, to provide for them "homes of rest and nursing," and to enlist public sympathy in their work) will be held at the Medical Society's house, 11, Chandos-street, Cavendish-square, W., on Wednesday, May 29th, at 4 P.M., Sir William J. Collins presiding. The Bishop of Croydon, Sir John Batty Tuke, Sir J. Crichton-Browne, Dr. Robert Jones (President of the Medico-Psychological Association), Dr. G. H. Savage, and some of the Commissioners in Lunacy, have intimated their hope to be present. There will be a presentation of two gold and two silver medals, awarded by the association for long and meritorious nursing service. All interested in asylum work and workers are cordially invited to attend.

POST-GRADUATE CLASSES AT TRINITY COLLEGE, DUBLIN.—From the announcement of these classes which appears in our advertising columns it will be seen that this year the course will begin on June 17th and will terminate on July 6th. Trinity College was the first Irish medical school to inaugurate a special course of instruction for medical practitioners. The arrangements of the classes this year are on lines similar to those which proved so successful in past years. The earlier part of each day is devoted to hospital work, while the afternoons are spent at clinical pathology, operations, x ray work, and the like. From a social point of view one of the attractive features of the Trinity course is the possibility of residing in College rooms and of dining on commons. As the number of rooms available is limited early application by those desirous of living in College is necessary. All the advantages and privileges of the course are open to qualified medical practitioners. The honorary secretary, Dr. A. R. Parsons, 27, Lower Fitzwilliam-street, Dublin, will be pleased to give any further information that may be desired.

THE SOCIETY OF ARTS.—At a meeting of the Society of Arts, held on May 8th, Mr. Paul Schlicht read a paper on the Production of Coke and its Application in Domestic Fires. His chief object was to recommend the adoption in London of the American practice by which ordinary bituminous coal before being used as fuel was treated in a "by-product coke oven." With this apparatus coke of several different kinds could be obtained at will, including either a dense hard coke free from volatile matter and suitable for metallurgical purposes or a porous coke containing a certain amount of volatile matter which enabled it to burn brightly in a domestic fire-place. Coke was introduced about the year 1620, the primitive process of manufacture, which required from five to eight days, being the ignition of coal in mounds. The coking period in the modern regenerative oven has been reduced to 24 hours for metallurgical coke and to 18 hours for domestic and industrial cokes which did not require the complete expulsion of the volatile portions of the coal but were in fact preferable therewith on account of their flame-producing properties, greater porosity, and greater ease of ignition. Mr. Schlicht said that when a ton of raw coal was coked in a modern by-product oven, there were obtained about 14 hundredweight of coke suitable for domestic and metallurgical purposes, 100 pounds of coal-tar containing a great number of valuable constituents, and 5000 cubic feet of gas suitable for illumination, for heating, and as a source of power in gas engines. The gas used for lighting purposes in Boston, Baltimore, and some other American cities was now made almost entirely in by-product ovens. The coke made in these ovens was much superior to that obtained in the older processes of gas manufacture, being less porous than the latter and more uniform. After referring to the methods suggested by Sir William Siemens and Sir Charles Cookson for burning ordinary porous coke or anthracite in combination with gas Mr. Schlicht said that he had invented a method by which both an up-draught and a down-draught could be maintained in the same chimney, the former being in the centre and the latter next the sides. In a closed stove provided with such a chimney a coke or anthracite fire could be made to burn brightly for 26 hours. Several diagrams illustrating this invention were shown on the screen and also two photographs taken from the roof of the South-Eastern Railway Station in Cannon-street, E.C., showing that the atmosphere of London was comparatively pure in the early morning before the domestic fires were lighted for the day. In the subsequent discussion Dr. H. A. Des Vœux, speaking as a member of the Coal Smoke Abatement Society, expressed a fear that the prejudices of the population and their disinclination to accept new ideas would be a barrier to the use of coke in domestic fire-places. He related instances of this from his own experience as well as from that of Sir Charles Cookson. Dr. Owens also described some of the work done by the Coal Smoke Abatement Society.

THE PROPOSED UNION OF LONDON PROVIDENT DISPENSARIES.—On May 9th a conference of representatives of the provident dispensaries of London was held at 42, Grosvenor-gardens, the residence of Mr. Francis Buxton, who presided. The chief object of the conference was the discussion of plans for closer coöperation between provident dispensaries and to consider their relationship to the medical profession, the hospitals, and the three chief hospital funds. The following resolution was adopted:—

That coöperation between all the provident dispensaries of London is desirable, whereby their aims and work may be advanced, reciprocal action between them and hospitals be promoted, and the transference of members from one dispensary to another be made more general.

A provisional committee, consisting of Sir William Bousfield, Mr. Francis Buxton, Sir Edward Brabrook, Mr. Carlton Lambert, Colonel Montefiore, Mr. H. J. Powell, and Dr. W. Winslow Hall, was elected to carry out the objects of the resolution and to arrange for the appointment of a consultative council representative of all the provident dispensaries in London.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—A quarterly meeting of the Royal College of Physicians of Edinburgh was held on May 7th, Dr. C. E. Underhill, the President, being in the chair. The Registrar reported that since the last quarterly meeting 41 persons had obtained the Licence of the College by examination. Sir John Batty Tuke was unanimously re-elected representative of the College on the General Medical Council for a period of five years from May 7th, 1907. Dr. John Playfair was re-elected as representative of the College on the conjoint committee of management of the triple qualification. It was intimated that Dr. Lewis C. Bruce had been appointed Morison Lecturer for the ensuing session. Dr. Harry Rainy was recognised as a lecturer on Practice of Physic. The Freeland-Barbour Fellowship was awarded to Mr. Ninian Bruce, B.Sc. By vote of the College, Edmund McDonnell, a Licentiate of the College, was expelled from the College and deprived of his licence to practise, as granted by the College, and of all his rights and privileges as Licentiate.

WESTMINSTER HOSPITAL FESTIVAL DINNER.—At the festival dinner in aid of the funds of Westminster Hospital held on May 10th in the hall of the Inner Temple, under the presidency of the Lord Chancellor, and at which Sir Henry Campbell-Bannerman and a large and distinguished company were present, Sir John Wolfe Barry, who responded to the toast of "Prosperity to Westminster Hospital," said that with the utmost economy the expenditure of the charity could not be kept below £19,000 per annum. The hospital had an income of £3000 per annum from house property, received £6000 per annum from the three hospital funds, and the annual subscription amounted to only £1500. If the hospitals of London could not be run upon voluntary charity but were put under the administration of local authorities they would lose the highest skill in the medical and surgical world which they now commanded. The medical profession, he believed, would not give their services to rate-aided institutions in the same way that they now did to hospitals supported by voluntary contributions. During the evening subscriptions to the amount of £6500 were announced and it was stated that two gentlemen had promised to give £1000 each if three others would make a similar offer within the next six months.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C.

A Synopsis of the British Pharmacopœia (1898). By H. Wippell Gadd, F.C.S., Lecturer on Pharmacy at the University College, Exeter; Director of the Laboratories of Evans, Gadd, and Co., Limited. Sixth edition, containing a Synopsis of the Poison Laws of Great Britain and Ireland. Price 1s. net.

FROWDE, HENRY, Oxford University Press, London, New York, and Toronto.

The World's Classics. Price 1s. net. CXII. The Works of the Right Honourable Edmund Burke. Vol. IV. With an Introduction by F. W. Raffety.—CXXIV. Lectures on the English Comic Writers. By William Hazlitt. With an Introduction by R. Brimley Johnson.—CXXV. The French Revolution. A History. By Thomas Carlyle. With an introduction by C. R. L. Fletcher. In two volumes.—CXXXIII. The Golden Treasury of the Best Songs and Lyrical Poems in the English Language. Selected and arranged with Notes by Francis Turner Palgrave. Together with Additional Poems (to the End of the Nineteenth Century).

HARRISON AND SONS, St. Martin's-lane, London.

Reports of the Commission appointed by the Admiralty, the War Office, and the Civil Government of Malta for the Investigation of Mediterranean Fever under the Supervision of an Advisory Committee of the Royal Society. Part VI. (April, 1907). Price 5s. Part VII. (April, 1907). Price 5s.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Handbuch der Pathologie des Stoffwechsels. Herausgegeben von Carl von Noorden, Wien. Zweite Auflage. Zweiter Band. Price M.24.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

A Study of the Human Blood-Vessels in Health and Disease. A Supplement to "The Origin of Disease." By Arthur V. Meigs, M.D., Physician to the Pennsylvania Hospital. Price 21s. net.

LENG, JOHN, AND CO., LIMITED, Dundee.

Pulmonary Tuberculosis, its Predisposition, Environment, and Treatment. By David Crichton, L.R.C.S.E., L.R.C.P.E., L.F.P.S.G. Price not stated.

LEWIS, H. K., 136, Gower-street, London, W.C.

Modern Methods of Diagnosis in Urinary Surgery. By Edward Desmesly, M.D., B.Sc. Lond., F.R.C.S., Hon. Surgeon, Wolverhampton and Staffordshire General Hospital. Price 3s.

The Practitioner's Medical Dictionary. Based on Recent Medical Literature. By George M. Gould, A.M., M.D., Author of "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences," "The Student's Medical Dictionary," &c. Price 21s. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, E.C.

(CHARITY ORGANISATION SOCIETY, Denison House, Vauxhall Bridge-road, London, S.W.)

The Annual Charities Register and Digest, 1907. Sixteenth edition. By C. S. Loch, Secretary to the Council of the Charity Organisation Society, London. Price 5s. net.

Royal University of Ireland. The Calendar for the Year 1907. Price not stated.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Notification of Births Bill.

THE Notification of Births Bill, which Lord ROBERT CECIL introduced into the House of Commons to deal in some measure with the problem of infantile mortality, has been read a second time. It was allowed to go through unopposed. Under the new rules of procedure it is automatically referred to a standing committee.

The Vaccination Acts.

The Personal Rights Association has petitioned the House of Commons to repeal the Vaccination Acts.

Accidents at Mines and Quarries.

The general report and statistics for 1906 on mines and quarries show the number of accidents occurring in them. It has just been laid on the table of the House of Commons and will be issued as a Parliamentary paper in due course.

Experiments on Living Animals.

Mr. HERBERT SAMUEL, the Under Secretary of State for the Home Department, on May 9th moved in the House of Commons for a return showing the number of experiments on living animals during the year 1906 under licences granted under the Act 39 & 40 Vict., and distinguishing the nature of the experiments. The return was granted.

The Vaccination Bill.

Sir JOHN BATTY TUKE has given notice that he will move the rejection of the Vaccination Bill after the motion for its second reading is made.

The Rejection of Aliens.

One of the tables appended to the first annual report on the Aliens Act, 1905, shows that during the year 1906 leave to land was withheld by the immigration officer in 202 cases on medical grounds. In 161 of these cases appeals were lodged, and of them 69 were successful, whilst 92 failed. The total number of rejections on the ground of want of means as well as on medical grounds was 493. This total is reached after the successful appeals against the decision of the immigration officers have been eliminated. In the case of transmigrants who were proceeding to destinations beyond the United Kingdom 1432 persons were rejected. 1419 of these rejections were on medical grounds and seven on the ground of insanity.

The Royal Commission on Vivisection.

The minutes of evidence taken before the Royal Commission on Vivisection during February and March, 1907, are published in the form of a Parliamentary Blue-book. Amongst the witnesses whose evidence is recorded in it are Mr. W. H. POWER, principal medical officer to the Local Government Board; Professor A. R. CUSHNY, University College, London, who represented the committee of medical and scientific societies; Miss A. KENEALY, representing the Parliamentary Association for the Abolition of Vivisection; Lord RAYLEIGH, President of the Royal Society; Sir R. DOUGLAS POWELL, President of the Royal College of Physicians; and Dr. FREDERICK TAYLOR, senior physician to Guy's Hospital.

HOUSE OF COMMONS.

WEDNESDAY, MAY 8TH.

Vaccination Fees.

Sir WILLIAM BULL asked the President of the Local Government Board what provision he proposed to make for the compensation of the vaccination officers who would lose the greater part of their fees if his Bill passed into law.—Mr. JOHN BURNS furnished the following written reply: I do not propose to make provision on this subject in the Bill.

Butter and Margarine Bill.

On the resumed debate on the motion for the second reading of the Butter and Margarine Bill,

Mr. ASHLEY expressed the hope that some provision would be inserted in the Bill whereby it would be made compulsory to label butter substitutes with a name in which the word "butter" did not occur, so that consumers should be in no doubt as to what they were getting.

Lord WILLOUGHBY DE ERESBY, in supporting the Bill, said that it was desired by agriculturists throughout the country. He hoped steps would be taken to prevent butter substitutes being sold which contained as much as 24 per cent. of moisture.

Mr. CROSS observed that to permit butter substitutes to be sold containing 24 per cent. of moisture would be a dangerous thing for the public and would subject farmers to an unfair competition. There might be many circumstances in which butter substitutes might be sold to an unguarded public. He had received communications from many farmers' associations in Scotland drawing attention to this provision in the Bill and taking exception to it.

The Bill was then read a second time.

THURSDAY, MAY 9TH.

The Board of Education and a Medical Department.

Mr. RAMSAY MACDONALD asked the President of the Board of Education whether he proposed to create a medical department in connexion with the Board of Education so as to supervise and coördinate local work done in connexion with the medical inspection of school children; and whether, in order to create such a department, legislation was necessary.

Mr. WEDGWOOD also asked the President of the Board of Education whether, in view of the fact that it was not competent for a private Member to move in committee on the Education (Administrative Provisions) Bill for the establishment of a permanent medical department at the Board of Education, he could say now what medical machinery the Board intended to adopt to carry out the proposals of the Bill; and, if he could not give this information, whether he would say on the advice of what experts or reports he intended to act.—Mr. MCKENNA said in reply to both questions: I regret I cannot add anything to an answer which I have already given to the effect that it would be premature to decide what machinery will be required by the Board of Education on the Education (Administrative Provisions) Bill becoming law; but my honourable friends may rest assured that I am fully alive to the importance of this question. The staff of the Board of Education can be increased with the consent of the Treasury without legislation. I may add that the Board's staff already includes two medical men.

MONDAY, MAY 13TH.

Vaccination and Education.

Mr. BOWLES asked the First Lord of the Treasury whether he would consider the desirability of introducing legislation to assimilate the practice with regard to compulsory State education to that now existing in the case of compulsory State vaccination, under which a conscientious objection or one fine absolved the parent from the consequences of not complying with the statute.—Mr. ASQUITH (on behalf of Sir Henry Campbell-Bannerman) replied: I do not see any connexion in principle between the two matters referred to.

The Prevention of Tuberculosis.

Sir FRANCIS CHANNING asked the President of the Local Government Board whether he had considered the resolutions passed at the meeting of the National Association for the Prevention of Consumption and other Forms of Tuberculosis urging immediate action in Parliament in pursuance of the recommendations in the recent report of the Royal Commission on Tuberculosis; and whether he was now able to state what steps would be taken to give effect to those recommendations.—Mr. JOHN BURNS said in reply: I am aware that resolutions have been passed at the meeting referred to, but I have not at present received copies of them. The recommendations of the Royal Commission relate to matters of much moment, and I am not at present in a position to make any definite statement with regard to the action which should be taken in consequence of them. They are, however, receiving my consideration.

The Royal College of Surgeons of England.

Sir WILLIAM COLLINS asked the Prime Minister whether he had now considered the memorial presented to him last session on behalf of the Members of the Royal College of Surgeons of England, asking him to take such steps as might secure to Members some voice in the management of the College and its property; whether any representations had been made by the Privy Council to the College of Surgeons and with what result; and whether he would lay upon the table of the House copies of any communications which had passed.—Sir HENRY

CAMPBELL-BANNERMAN (in a written reply) answered: The memorial mentioned in the question was transmitted to the Council of the College by the Lord President, and subsequently to the receipt of its observations thereon Lord Crewe saw a deputation from the Society of Members. The Society has since furnished a rejoinder to the observations of the Council which has been forwarded to that body with an intimation that the Lord President is willing to receive a deputation from it in due course.

TUESDAY, MAY 14TH.

The Medical Officer to the Tokio Embassy.

Sir WILLIAM COLLINS asked the Secretary of State for Foreign Affairs whether the medical officer to the British Embassy at Tokio was a British subject, and whether he was a legally qualified medical practitioner within the meaning of the Medical Acts.—Sir EDWARD GREY replied: I understand that Dr. Wunsch, the medical officer referred to, who was appointed early in 1905 and still holds the post, is not a British subject. But before he was appointed endeavours were made by His Majesty's Ambassador at Tokio to secure the services of a suitable British subject, and none was available. As regards the second part of the question, I must point out that Dr. Wunsch has very high qualifications, and as his practice is in Japan the special technical qualification referred to does not apply.

Sir WILLIAM COLLINS: May I ask whether the Embassy at Tokio is not a public institution within the meaning of the Medical Acts, and accordingly none other than qualified medical practitioners can be appointed to that post?

Sir EDWARD GREY: Then it would have to go without any medical officer. I do not think my honourable friend would desire that.

Mr. SMEATON: Was the appointment advertised?

Sir EDWARD GREY: I do not know whether it was advertised.

Sewage Purification Works in Scotland.

Mr. ROBERT DUNCAN asked the Secretary for Scotland whether he would state how many Scottish burghs, including police burghs, had adopted, or had under consideration, modern systems of sewage purification works and whether there were any special circumstances in the case of the burgh of Dumbarton why similar works should not be constructed by it.—Mr. SINCLAIR furnished the following written reply: The Local Government Board informs me that in February last it was found that 18 Scottish burghs had biological systems of sewage purification already in operation. In seven cases systems were being laid down and in the case of 14 burghs schemes were under consideration. What system would best suit the burgh of Dumbarton could only be decided on after obtaining expert advice.

WEDNESDAY, MAY 15TH.

Hospital Accommodation at Aldershot.

Mr. WILLIAM NICHOLSON asked the Secretary of State for War whether he was aware that the hospital at Alton, Hants, which was presented to the War Office by the subscribers to the *Daily Mail* Fund during the South African War, was no longer in use as an Army hospital; whether he could state the reasons why the hospital had been closed; and whether it was the intention of the War Office to dispose of it by sale.—Mr. HALDANE replied: This hospital is no longer in use as an army hospital, as there is ample accommodation in the other army hospitals at Aldershot. It is not at present proposed to dispose of the building by sale.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

CARROL, DENIS J., L.R.C.P. & S. Irel., has been appointed Medical Officer to the Clonmel Dispensary, Co. Tipperary.

CORBETT, WILLIAM EDWARD MANDERSON, L.R.C.P. & S. Irel., has been appointed Medical Officer to the Stonehouse Branch of the Provident Dispensary in connexion with the Royal Albert Hospital, Devonport.

CROUDACE, J. H., L.R.C.P. & S. Edin., has been appointed Medical Officer to the Stafford Workhouse.

MARSON, F. H., M.D. Durh., has been appointed Medical Officer and Public Vaccinator for the Stafford District.

PAREN, Dr., of Melbourne, has been appointed Medical Officer to Lake Way Hospital, Wiluna, West Australia.

PATON, LESLIE, B.A., M.B., B.C. Cantab., F.R.C.S., has been appointed Assistant Ophthalmic Surgeon to the National Hospital for the Paralysed and Epileptic, Queen-square, W.C.

PORTEOUS, H. L., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator to the Chalford and Bisley Districts of the Stroud Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ALNWICK INFIRMARY.—House Surgeon, unmarried. Salary £140 per annum, with apartments, attendance, coals, and gas.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Senior and Junior Resident Medical Officers for six months. Honorarium at the rate of £20 and £10 a year respectively, with board and lodging.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Honorarium at rate of 52 guineas per annum.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

BRENTFORD UNION WORKHOUSE AND SCHOOLS, Isleworth, W.—Second Assistant Medical Officer, unmarried. Salary £125 per annum, with lunch and tea daily and dinner when on late duty.

BRIDGNORTH AND SOUTH SHROPSHIRE INFIRMARY.—House Surgeon. Salary £100, with board and lodgings.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—Physician.

CANCER HOSPITAL, Fulham-road, London, S.W.—House Surgeon.

CANTERBURY CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, apartments, and laundry.

CAPETOWN, SOMERSET HOSPITAL.—Junior House Surgeon. Salary £200 per annum, with quarters and rations.

CARMARTHEN, JOINT COUNTIES LUNATIC ASYLUM.—Medical Superintendent. Salary £850 per annum, with house, fire, light, and washing. Also Assistant Medical Officer. Salary £200 per annum, with board, lodging, washing, and attendance.

CHELTENHAM GENERAL HOSPITAL.—House Physician, also Surgeon-in-Charge of Branch Dispensary, both unmarried. Salary of former £85 and of latter £90 per annum, with board and lodging.

COLCHESTER, ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Surgeon. Salary £30 per annum, with board, washing, and residence.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months. Salary £60 per annum, with rooms, board, washing, and attendance.

CUCKFIELD UNION.—Medical Officers for Districts No. 2, No. 6, and No. 7. Salaries £50, £40, and £100 per annum respectively and extra medical fees.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with apartments, board, &c.

DOUGLAS, ISLE OF MAN, NOBLE'S ISLE OF MAN HOSPITAL AND DISPENSARY.—Resident House Surgeon, unmarried. Salary £90 a year, with board and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon and Assistant House Surgeon. Salaries £30 and £25 respectively, with board and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—House Physician, House Surgeon, and Assistant House Surgeon. Salary of two former £30 and of latter £70 per annum, with board, residence, and washing.

FRENCH HOSPITAL, 172, Shaftesbury-avenue, London.—Second Resident Medical Officer. Salary £50.

GLASGOW, ANDERSON'S COLLEGE MEDICAL SCHOOL.—Chair of Practice of Medicine.

GORDON HOSPITAL, Vauxhall Bridge-road, S.W.—Resident House Surgeon.

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £90 per annum, with board, lodging, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging. Also Honorary Assistant Surgeon to Out-patients.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—Third House Surgeon. Salary £50 per annum, with board, attendance, and washing.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum and board.

LIVERPOOL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Stipendiary Medical Officer and Assistant Pathologist.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board, residence, and washing.

LIVERPOOL, WEST DERBY UNION, MILL-ROAD INFIRMARY.—Assistant Resident Medical Officer, unmarried. Salary £125 per annum, with board.

LONDON COUNTY ASYLUMS, Bexley, Kent, and Claybury, Woodford Bridge.—Two Junior Assistant Medical Officers. Salary £150 a year, with board, apartments, and washing.

LONDON SKIN HOSPITAL, Fitzroy-square, W.—Physician.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon and Anæsthetist, unmarried. Salary £80, with board, lodging, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board and residence.

MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES.—House Surgeon. Salary £75 per annum, with board and residence.

MANCHESTER ROYAL INFIRMARY.—Three Assistant Surgical Officers. Salaries £35 per annum.

MIDDLESEX HOSPITAL.—Medical Officer and Registrar to the Cancer Department. Salary £100 per annum, with board and lodging.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160.

NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—House Physician and Resident Medical Officer for the Maternity Department (females).

NORTHAMPTON, BERRY WOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150, increasing to £200, with board, lodging, washing, and attendance.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Medical Officer in Charge of Electrical Department. Salary £50 per annum.

OLDHAM UNION.—Resident Medical Officer, unmarried. Salary £120 per annum, with residence, coal, gas, rations, washing, and attendance.

ROCHDALE INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

ROYAL EAR HOSPITAL, Dean-street, Soho, W.—House Surgeon for six months. Salary at rate of £40 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant to the Clinical Pathologist and Assistant Anæsthetists (females).

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

ST. BARTHOLOMEW'S HOSPITAL.—Lectureship in Anatomy.

ST. GILES, CAMBERWELL, WORKHOUSE, East Dulwich.—Locum Tenens for Medical Officer for four weeks. Salary at rate of 4 guineas per week, with board, lodging, and washing.

ST. MARY'S HOSPITAL, Paddington, W.—Dental Surgeon. Also Resident Casualty House Surgeon. Salary £100 per annum, with board and lodging.

ST. THOMAS'S HOSPITAL.—Assistant Physician.

SELBY, LEEDS TUBERCULOSIS ASSOCIATION SANATORIUM, Gateforth.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Salary at rate of £70 per annum, with residence, board, and washing.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square, W.—House Surgeon. Salary at rate of £75 per annum, with residence, board, and laundry.

UNIVERSITY OF LONDON.—Sharpey Physiological Scholar. Emolument of £150 a year.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Honorarium of £30, with board and lodging.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing. Also Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and washing.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, &c.

WEST HARTLEPOOL, CAMERON HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, rooms, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Officer-in-Charge of X-Ray Department.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY.—Junior House Surgeon. Salary £100, with apartments, washing, and rations.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £85, rising to £75, with board, residence, &c. Also Honorary Physician.

WORCESTER COUNTY AND CITY ASYLUM.—Locum Tenens. Salary 3 guineas per week.

WORCESTER GENERAL INFIRMARY.—House Physician. Salary £80 per annum, with board and residence.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Cheltenham, in the county of Gloucester, and at Mid-Calder, in the county of Edinburgh.

Births, Marriages, and Deaths.

BIRTHS.

COOPER.—On May 9th, at Sutton Court-road, Chiswick, the wife of Bertram Cooper, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

GRAHAM.—On May 1st, at Gwydir House, Cambridge, the wife of J. C. W. Graham, M.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MACMILLAN.—On May 12th, at Prestwich, Lancashire, the wife of David Macmillan, M.D., of a son.

DEATHS.

BARNES.—On May 12th, at Bernersmede, Eastbourne, Robert Barnes, M.D.

BARNICOT.—On May 13th, at 40, Queen-street, Hitchin, Ethel, the wife of Joseph Barnicot, M.D.

BURROWS.—On May 8th, at Ixton Mansions, Hove, William Seymour Burrows, M.R.C.S., J.P.

FRODSHAM.—On May 12th, at Weybridge, John Mill Frodsham, M.D., J.P., aged 72 years.

JALLAND.—On May 9th, at Rollestone House, Horncastle, Robert Jalland, M.R.C.S. Eng., L.R.C.P. Lond., aged 70 years.

SHENNAN.—At 95, Mayfield-road, Edinburgh, on the 12th May, Eileen Ivy Theodora, aged 2½ years, only child of Dr. Theodore Shennan and Mrs. Shennan (née Minnie Green, L.R.C.P. & S. Edin.).

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE GOLDEN FLEECE.

WE remarked in these columns last week that in the above-named publication we were accused quite untruthfully of sending out advance copies of THE LANCET containing the pronouncement concerning the use of alcohol which the pamphlet sent to us for review proposed to analyse and to refute. We have now received a letter from Mr. Charles Smith, F.S.S., secretary of the British Temperance League, concerning "the medical statement in favour of alcohol" (as he terms it) which runs as follows:—

To the Editors of THE LANCET.

DEAR SIRS,—On p. 1335 of THE LANCET for the 11th inst., commenting on my reply to the above, you say: "We are accused quite untruthfully of sending out advance copies of THE LANCET containing the pronouncement." Have you not here erected a windmill of the type easily demolished which you attribute to me, and then proceed to demolish it with great satisfaction as though you were demolishing an argument of mine? Kindly look through the pamphlet again, and you will find that it does not accuse you of anything. It runs: "Advance copies (from THE LANCET) were issued before the day of publication and were widely inserted in the London and provincial newspapers."

And that statement is strictly true. The day of publication of THE LANCET containing this alcohol statement is Saturday, March 30th. I enclose you herewith a sheet of the *Yorkshire Telegraph and Star* for Friday, March 29th, containing this manifesto from your columns, citing you as its authority, and being an exact facsimile of the document as it appeared in your columns the following day, even to the division into pars. and the order of the names of the signatories.

It is, as you will observe, suitably introduced with three lines of big type: "Doctors and Alcohol," "Important Manifesto," "Counterblast to Teetotal Statements." This paper was on sale in the streets of Sheffield at 3 o'clock on Friday afternoon, March 29th.

Who distributed these advance copies to the press I know not, but my information is that they were widely posted from London early on Thursday, March 28th, in some cases being delivered that day.

Yours very faithfully,

29, Union-street, Sheffield, May 13th, 1907. CHARLES SMITH.

There is no need for us to look through "The Golden Fleece" again; no one can issue advance copies of THE LANCET except ourselves, and we repeat that the accusation is untrue. Mr. Smith's information that copies of THE LANCET were widely posted from London early on Thursday, March 28th, is, we are glad to say, correct, but it has not the significance which he calmly gives to it. Friday, March 29th, happening to be Good Friday, we went to press one day earlier than usual. No advance copies of THE LANCET containing the pronouncement upon alcohol were issued by us, and no one but ourselves can issue advance copies. The statement in Mr. Smith's letter which he qualifies as "strictly true" is consequently quite untrue. The cause of temperance is one which we have steadily and consistently supported in our columns, and it is one that ought not to lead to loose speaking and writing by its official advocates.

CONSULTANTS' FEES.

To the Editors of THE LANCET.

SIRS,—Allow me to ask you the following question—viz.: When a consultant is called in to see a patient with the medical man in attendance on the case is the medical man in attendance responsible for the payment of the consultant's fee? The question might depend on "who called the consultant in." In my particular case (as a matter of fact) the son of the house telephoned to the consultant from the patient's house and asked the consultant to call and I would wait until he came. The consultant now wants me to pay the fee to him and I am to get it from the patient. There is no question about the fee being forthcoming; but I am not of opinion that the ordinary medical attendant is responsible for the consultant's fee and I shall be glad of an expression of opinion on the subject. With apologies for troubling you,

I am, Sirs, yours faithfully,

May 12th, 1907. ENQUIRER.

*** The usual course is for the patient or his friends to have the consultant's fee in readiness. It is generally handed to him by the general practitioner, but in our opinion the patient, and not the general practitioner, is responsible for the fee.—ED. L.

A GARBAGE MONGER HEAVILY FINED.

AT the Mansion House recently John Copeland of Glenluce, Wigtownshire, was prosecuted by the public health department of the City as the person to whom two carcasses of pigs had belonged which had been deposited for sale at Leadenhall Market and which were unfit for human consumption. The defendant did not appear and counsel representing him pleaded guilty on his behalf. The Alderman, Sir David Evans, said that the defendant was not a novice and marked his view of the offence by inflicting a fin

of £30, with £7 7s. costs. It is to be hoped that selling diseased animals is not quite so profitable that a fine of this magnitude can be readily paid from the profits derived from other similar dealings which escape detection or which are of not so serious a character as to attract attention. Dealers in food which endangers the health or the lives of others deserve to be prevented from carrying on transactions in the public markets for a prolonged period by some means corresponding to the "warning off" which at times removes from racecourses those who cheat their fellow men.

LOATHSOME BED-STUFFING.

To the Editors of THE LANCET.

SIRS,—We were glad to notice extract from your issue regarding impure bedding. We enclose a copy of our senior partner's little publication; second issue (six or eight years ago); see page 44 *et seq.* on same subject. We question very much if some who use the word sterilised know what it means. We think prosecution under the Merchandise Act should follow false advertising.

We are, Sirs, yours faithfully,

Edinburgh, May 6th, 1907. MARTIN AND SON.

P.S.—Old clothes from Scotland go over to Ireland and after Pat has worn and patched them they come back to Greenock in bales to be torn up, unwashed, and sold for bedding!

"*.*" The publication referred to is entitled "About Beds and Bedding," and it contains a good deal of practical and historical information on the subject. In regard to loathsome bedding the writer rather aptly, we think, quotes Dickens's story of the "Celebrated Sausage Shop" in the "Pickwick Papers." Halves of buttons had been found in the sausages, and buttons have also been found, it is stated, in bed-mattresses.—ED. L.

A REMARKABLE TABLET.

Lady (K.) Lawson has sent us an interesting photograph of a tablet erected in a Guernsey church to the memory of Daniel and Susanne Falla and their younger son, Thomas Falla. The following is a translation of the latter part of the inscription, which is in French:—

> This Monument is erected to their memory, and to that of their younger son, Thomas Falla, Lieutenant in the 12th Regiment of Infantry, who died at the Siege of Seringapatam, the 6th April, 1799, aged 18 years 6 months and 25 days, from the effects of a wound from a cannon ball weighing 26 lbs., which had located itself between two bones in his thigh. The said wound becoming considerably inflamed the regimental surgeon, although having examined it, ignored that a bullet was enclosed, and it was only after his death, which occurred six hours after the event, that it was extracted, to the surprise of the whole army.

Lady Lawson has asked our opinion upon the occurrence thus described, but she has since supplied us with the explanation by referring us to the well-known memoirs of Captain George Elers, where the following description of the fatal injury to Lieutenant Falla is given:—

> Among the casualties in my regiment was the death of poor Falla from a cannon-ball, a twelve-pounder, from the fort of Seringapatam, three miles distant from our trenches. It rolled in and buried itself in poor Falla's groin. It was the most remarkable wound ever seen, and the general conversation of the army, for the shot was not to be seen, the flesh swelling completely over it.

It will be seen that the inscription on the tablet is totally incorrect, while the mystery implied by mention of the "two bones" in the victim's thigh disappears when we learn that the wound was not in the thigh at all. The size of the ball is more than doubled in the account on the tablet and Captain Elers's measurement may be taken as the right one. There could not have been 26 pounders employed in the siege of Seringapatam, while a 12-pound shot might conceivably bury itself among the abdominal contents and escape attention unless actually searched for. The episode after reading Captain Elers's account becomes possible, though it is none the less extraordinary. Captain Elers says nothing about the regimental surgeon having examined the wound, and we suspect that to be a further inaccuracy on the part of the author of the inscription. The medical attitude was probably one of inaction in a case where absolutely nothing could be done. The fatal nature of the injury—described in the inscription in the following words, "The said wound becoming considerably inflamed"—was probably perceived at once by the surgeon, operative proceedings being much more limited in those days than they are now, and the unfortunate young soldier was left to die in peace.

Alia Mores.—The best articles we know are those on Intoxications in vol. ii. of Allbutt's "System of Medicine," and in Osler's "System of Medicine." Most of the standard works on Insanity—e.g., Craig's "Psychological Medicine"—deal with drug habits.

Precipitin.—Our correspondent will find the following paper useful: Welsh and Chapman: Proceedings of the Royal Society, B. vol. lxxviii., 1906. He might also refer to THE LANCET, April 6th, 1907, p. 969.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (25th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

FRIDAY (24th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Papers:—Dr. F. de Havilland Hall: Two Cases of Prolonged Pyrexia.—Dr. Gossage: A Case of Partial Heart Block.—Dr. F. W. Price: Foreign Bodies in the Bronchi. 9.30 P.M.: Annual General Meeting.

BRITISH ELECTROTHERAPEUTIC SOCIETY (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Council. 8.30 P.M.: Dr. Doumer (Lille): The Fundamental Principles of Electrotherapy. An Extraordinary General Meeting will be held for the purpose of winding up the Affairs of the Society.

SATURDAY (25th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (University of Edinburgh).—9.30 A.M.: Card Specimens and Cases will be shown. 10 A.M.: Papers will be read and Demonstrations given.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (20th).—NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Dr. Russell.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. W. Ewart: Clinique. (Medical.) 5.15 P.M.: Lecture:—Mr. W. H. Clayton-Greene: Suppression of Urine and Anuria.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles), Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. A. Wylie: Pharynx.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Sir W. Gowers: Vagal Attacks and Brain Faints.

WEDNESDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. P. Paton: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. H. French: The Vaccine Treatment of Acne and Some Points in the Treatment of Some other Common Maladies.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye. 2.15 P.M.: Special Lecture:—Dr. F. Taylor: Bronchiectasis.

THURSDAY (23rd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Mr. S. Edwards.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. A. P. Beddard: Diabetes.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel). 4.30 P.M.: Special Demonstration of Skin Cases (Dr. G. N. Meachen).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. I. Bruce: Demonstration (Electrical). (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Mr. Parsons: Convergent Squint.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M.: Special Lecture:—Prof. J. Penberthy: The Veterinary Aspect of the Tuberculosis Problem.

UNIVERSITY OF BIRMINGHAM, FACULTY OF MEDICINE (Medical Lecture Theatre).—4 P.M.: Post-Graduate Lecture:—Prof. Leith: The Widal Reaction, its Present Position and Value.

FRIDAY (24th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—X Rays.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. E. Clarke: Clinique. (Eye.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. 3.15 P.M.: Special Lecture:—Mr. McGavin: Epithelioma of Penis and Pre-cancerous Conditions.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Sir V. Horsley: Surgery of the Nervous System.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Dr. A. Wylie: Pharynx.

SATURDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 16th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 10	29·80	S.	...	117	73	51	55	61	Fine
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,, 12	29·80	S.E.	...	127	82	59	59	66	Fine
,, 13	29·86	S.W.	0·05	99	65	56	56	57	Raining
,, 14	29·79	N.E.	0·12	77	58	53	50	53	Overcas
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